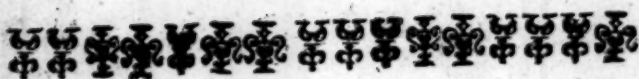




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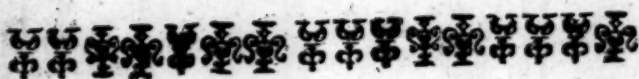
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THE
ART
OF
Chymistry:

As it is now Practised.

Written in French,
By P. THIBAUT,
Chymist to the French King.

And now Translated into English,
BY
A Fellow of the Royal Society.

L O N D O N: m'h

Printed for John Starkey, at the Miter near
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The Author's PREFACE.



Have, Courteous Reader,
but two things to say to
thee; the first is, To de-
liver my Opinion con-
cerning *Chymistry*; and the other is,
To set down my Way and Method of
proceeding in Operations.

Chymistry, as I take it, is a *Libe-
ral Art*; which, though it have the
same Object, and the same End, as
Vulgar Pharmacy, does nevertheless
compose it by Nobler, and more In-

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genious Means, and more to the advantage of Physick. In ancient times, even long before *Hippocrates*, Physicians neither knew, nor made use of any more than four ways of preparing their Remedies; for, either they pressed the Juice out of their Ingredients, or beat them to powder, or they boiled them, or else they infused them in Water, or some other Liquor, and so gave them to their *Patients*. Some Ages after, and particularly since *Mesue*, and those other famous *Arabians*, till the time of *Paracelsus*, Physicians continually invented so many new Preparations, and put so many Disguises upon their Remedies, that they were fain to give over doing of it themselves, and to assign that care to those whom we now call *Apothecaries*. But, if we give a Judicious Curiosity

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Curiosity leave to pry into these manifold Disguises, we shall soon be convinced, that they are indeed nothing but the four first Simple Preparations, with the addition of Sugar or Honey, and some differences of Colour and Consistency; for the most part heaping great quantities of Simples one upon another, to the end their *Patients* might swallow them with less distaste. *Paracelsus* and his Followers having particularly wrought upon Minerals, found out some excellent Remedies; and being encouraged by their rich Discoveries, they continued them with such eagerness, that in a short time with Inventions equally ingenious and laborious, they did almost subdue the three Kingdoms of *Vegetables*, *Animals* and *Minerals*, and came to the possession of most rich,

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and hitherto unknown Secrets, inso-much, as one may say, that even from the beginning of the World, to their times, the Vertues of those excellent Remedies lay buried in their own Bodies, as in a Grave. This may be clearly seen in Crude *Antimony*, of which a pound, either in powder, or in Infusion, or Decoction, works no other effect in the Body, than if we had swallowed as much Saw-dust. But, if you know how to open its Body by the Keys of *Chymistry*, then for interiour Remedies, you shall have an *Emetick*, a *Purgative*, a *Sudorifick*, a *Diaphoretick*, a *Diuretick*, and a Cordial, which you need only give in a different proportion of so many Grains. And for exterior Applications, you may, out of the same *Antimony*, have a *Desiccative*, a *Mundificative*, a *Consumptive*,

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Sumptive, or *Escarotick*, with other rare Remedies, as we shall hereafter set down at large. If we consider *Mercury*, they that work in the Mines in *Spain*, teach us by their Theft, that more than a pound of it may be taken inwards without harm; for, a little before they give over working, they swallow a good quantity of it, which, when they are at liberty, they ease themselves of by Stool, and so keep it to sell in secret. And this the Overseers having discovered, do now force every Workman to stay there a considerable time, after his giving over working, that these Mercurial Thieves may be so forced to leave their theft behind them. But, if by the vertue of Chymical Dissolvants you open the body of Quick-silver, it will produce in very small Doses, such various and wonderful effects,

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effects, that out of it alone may be had Remedies to answer all the Indications of Physick. Is there any thing more contemptible than *Niter*, in the hands of the *Vulgar Pharmacy*? But, is there any thing more admirable than the self-same *Niter* handled by *Chymistry*? for with it, we make now a pleasant and cooling *Acid*, now a hot and burning *Corrosive*; sometimes it revives the *Emetick* and *Purgative* vertue of *Antimony*, sometimes it kills the *Emetick*, and revives only the *Purgative*, and sometimes it destroys both *Emetick* and *Purgative*, and quickens either the *Diuretick* or *Diaphoretick*; and in a word, it produces so many wonderful effects upon all the other Minerals, that we may justly call it the *Universal Agent* of *Chymistry*. Who would think that a quantity of *Silver*,

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ver, no bigger than a Pea, Chymically prepared, were able to heal, by once touching, any Ulcers of the Mouth? and by two or three touchings, soften and heal the hardest, and most inveterate Ulcers, and even the Gangrene it self in any part of the Body, and that incomparably better than any Remedy of the Old *Pharmacy*. Would any body believe, that out of *Common Salt*, which is generally reputed so prejudicial to those that are subject to the Stone or Gravel, Chymists should extract a pleasant Spirit, which drives out all Gravel, breaks the Stone in the Kidneys and Bladder, and dissolves entirely in the palm of the hand a Stone cut out of a humane Bladder?

I should be tedious in setting out all the other Wonders of this Art, only this I'll say to prove its excellency,

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lency, That whereas in its birth, and even in its growth, when it was either not known at all, or ill known by Physitians, almost every body had an aversion, and a prejudice against it; now quite contrary, being highly esteemed, and throughly known by the Learned and Experienced Professors of this Art, it has gained the Reputation of being the best Instrument of the excellent Cures they perform.

But, if in requital of the kind Reception it now meets withal in the world, *Chymistry* hath any acknowledgments to pay, it is particularly to *Monsieur Vallot*, who having been long the Physitian of the greatest Practice in *Paris*, is now the Physitian of his *Most Christian Majesty*; in which place, by his profound Learning, and the excellent choice of
of

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of Remedies, borrowed, for the most part, from *Chymistry*, he still performs wonderful, and most singular Cures. So famous an Example makes me apt to believe, that if there be any persons obstinate in their old error against *Chymistry*, they will by little and little forsake it; as those have been forced to do, who for a long time stubbornly opposed the new Discovery of the Vessels that carry the Chyle from the Stomach to the Heart, without coming at the Liver, only because they had not seen, or at least not well observed this new conveyance.

Now for my Method, it all runs upon two principles; *First*, To find out, and set down solid and pertinent Reasons of all the Circumstances which accompany our Operations. *The Second*, to discover the best, easiest,

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fiest, and shortest way of performing the said Operations. These were no easie things to be found out; for, the first Chymists happened upon abundance of excellent Secrets, but being ignorant of the true Reasons of their Discovery; that they might give credit to their new Science, they made use of the Cabalistic Cloak, of covering all things with a Mystery. The Modern Professors indeed have given a better Foundation to their Art, and so good an one, as hath shaken that of the old Philosophy, but withal, either for want of skill, or maliciously they have encumbered their processes with so many, and such impertinent Circumstances, lengthening both them and the expences, that very few, and indeed none, but very sharp-sighted Physicians have been able to see through

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through the Cloud, and both receive and communicate the benefit of the light there hidden. This consideration has moved me in this my VVork, to keep within the limits of *Chymistry*, neglecting any Speculations beside my purpose; and withal, to endeavour to free my processes from all those Obscurities, Difficulties and Protractions, which Experience and Reason have convinced me to be either superfluous, or prejudicial to them. If I have not executed my design to thy mind, I must confess, Courteous Reader, that it is much a harder thing to perform well, than to project.

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THE ART OF

CHYMISTRY,

As it is now Practised.

Of the Chymical Laboratory.



THE *Chymical Laboratory* is a place fit to perform the Operations of Chymistry, which cannot be done without great preparations, experience, industry and skill.

The *Chymical Laboratory*, requires of it self three Conditions: *First*, there must be a Chimney in it for those Processes, where some unpleasant and noisom smoaks are to be avoided: *Secondly*, The Room ought to be clear and light, that one may see distinctly, even to the bottom of the Vessels, the divers changes

B

that

that do happen, and which sometimes, in some choice and important Operations, ought to be observed with a great deal of care, that one may either augment or diminish the heat, as necessity shall require. *Thirdly*, The place ought to be so capacious, as that in one part may be the Furnaces, in another the Vessels and Utensils, and in another your Auditors or Spectators; and yet in the middle there may be room enough left for the Artist to mind his Operations, and bestir himself.

Of the Chymical Instruments.

THe Chymical Instruments, with which a Laboratory ought to be furnished, are of two sorts: for some are *Principal*, the others *less-Principal*.

The *Principal* Instruments without which no Operation can be done, are, the *Lute*, the *Furnaces*, the *Vessels*, and the *Fire*.

The *less-Principal* are those that serve sometimes for one Process, sometimes for another, towards the facilitating of them; and are in great number. But I propose only *Thirty* of the most useful: viz. an Iron Ladle, a little Iron Bar, an Iron Spatula, a great Stick, a Brass Mortar and Pestle, a Marble Mortar, with a Wooden-pestle; a Plate-dish of White-ware, with a Glass-pestle; two pair of Scales and Weights; a Marble or Porphyry-stone to grind upon;

upon; some Pack-thread, white and brown Paper, Starch or Glue, a fine Sieve; some old Linen-rags cut out into long slices, some Ashes, some Sand, some Tiles, some water, a Tin-Mould in form of a Pipe, an Iron-Mould for Pistol-Bullets, a Copper-Mould for a Goblet, a little Trevet, a Wooden Spoon, a Tin-Tunnel, Rolls stuff with Straw or Chaff, or made of Paste-board, a Mould for Bricks, a Fire-Shovel, a pair of Tongs, and a pair of Bellows. Of these we shall not treat here particularly, but as occasion shall serve in the Operations where they shall be employed.

Of the Chymical Lute.

TO make a good Lute for all the purposes of Chymistry, take of Potters-Earth, of white or yellow Sand, and of Horse-dung, an equal quantity, not an equal weight; mingle them, and moisten them by little and little with water, first working them together with your feet upon the ground, then piece by piece kneading of them exactly with your hands upon a Table, till you have so incorporated your Ingredients, that they are not distinguishable from one another; then make them up in form of Bricks, that so you may use them more neatly; keeping them from Fire and Sun, lest they should be over-dry and hard. The Potters Earth is made use of because of its unctuousity, which makes the Lute less brittle; the Sand is employed to bind the Potters

Earth from cracking, and flying, and burning to dust. (And some do use powder'd Glas for the same end.) The Horse-dung is added, because being full of little Straws well grownd by the Horses-Teeth, they do serve for the firmer knitting of the matter together. (And so some use Calves Hair for that purpose.) Finally, the Water incorporates these three things together; In the place of which, some use the Whites of Eggs, which by their sliminess make a stronger conglutination of all the Ingredients.

This Lute serves for six uses: 1. To make Bricks. 2. To lute and cement the Bricks of your Furnaces. 3. To fill up the cracks and slits of your Furnaces. 4. To frame little Rounds like Salt-sellers to set the Retorts on. 5. To lute all Vessels both of Earth and Glas. 6. To repair the cracks of your Vessels. Now because there is a peculiar industry in well forming the Bricks and Salt-sellers, or Rounds, and in luting the Vessels; I shall here set it down at length.

Our Bricks are all of a bigness and proportion, that so our Furnaces may be the more even and firm, and the easilier built, even without cement: Moreover, they are almost in the shape of a half Moon, that they may make the Furnace round; that figure being the fittest to gather and concentrate the heat. Therefore we form our Bricks in a Wooden-mould either of Box or Guaiac, or some such hard wood. The piece of wood is a foot long, half a foot broad, and three inches thick. In its middle there must be a hollow or overture drawn from a Round made with

a Compass; which Overture ought to be eight inches outwards, six inches inwards; three inches large, and three inches thick. Now to make your Bricks, fill your mould with lute, and with a wooden knife even the superficies, and so knock out your Brick; and when your mould grows dirty, rub the sides of it with sand; dry your Bricks in the shade, so they will last longer; for being thus half-dried, they will bake leasurably in the using of them, and not be apt to crumble and break, neither will they be so soon calcin'd, as if you had dried them by the fire or Sun, or in a Potters Oven.

Our Rounds or Salt-sellers derive their name from their figure, because they are somewhat like the old-fashioned Salt-sellers. To form them, take of our Lute a quantity as big as your fist, and rowling it between both hands, reduce it to the form of a Cylinder two inches high; flat the lower end of it upon a Table, and then with your fingers sink in the upper part, till it be somewhat like a Salt-seller that is hollow, and of the breadth of an inch in diameter.

For the luting of your Vessels, the Lute that is employed ought to be softer than either for Bricks or Rounds, and therefore you'll do well to wet it with some Water. It must not be laid on thicker than the thickness of a Half-Crown-piece; for if it be, the fire will scarce be able to heat the Water contained in your Vessels. Observe that sometimes the Matrasses are luted up to the neck, sometimes half way. Retorts are luted in the same way too; only there

ought to be a little space left near the neck, that one may see thorow it into the Vessel in the time of the Operation: Your Vessel being luted, must be dried at leisure in the Sun or shade, or near a gentle fire; taking care to turn them equally, so that they be not dried more in one place than in another.

Of the Chymical Furnaces.

Our *Furnaces* are round and little: They are round, that they may unite and concentrate the heat of the fire; they are little, that our Laboratory may not be incumber'd to no purpose, and also that we may give our Vessels a quicker and more equal fire, and that with less toil and less expence.

We have two sorts of *Furnaces*: the first are fixt, which are made of different lays of crooked Bricks, cemented strongly together with our Lute; the others are moveable, and consist of crooked Bricks laid one upon another without any lute or cement, and in which you lay the fire, not under your Vessels as in the first sort of *Furnaces*, but circularly round about them.

The fixt and cemented *Furnaces* are five in number, to wit, the *Furnace* with a heat of *Bulneum maris*, or of the vaporous Bath; the *Furnace* with the heat of ashes or sand; the *Furnace* with a naked fire and circular heat; the *Furnace*

nace with a naked fire and small Reverberation; and the Furnace with the fire of great Reverberation. The moveable and not cemented Furnaces are likewise five in number; viz. the Furnace with a small circulatory fire; the Furnace with a great circulatory fire; the Furnace with a fire of circulation and suppression without a gape; the Furnace with a fire of circulation and suppression with a gape; and the Furnace with a moulting fire, or the wind-furnace: All these five Furnaces are with a naked fire.

The Furnace with the heat of *Balneum maris*, or the vaporous Bath, is necessary for the gentle distilling of all sorts of aery or sulphureous liquors in glass-bodies, placed in a Cauldron full of water; and withal, it serves to evaporate and dry, by its gentle heating vapour, all extracts, and salts, in little earthen glaz'd dishes, which are set upon the Overtures made in the cover of the said Kettle or Cauldron; so that the remedies thus dried have no odour nor taste of Emphyreume or burning.

For the building of this Furnace, do thus: lay one Round of our Bricks of such a compass as may be proportionate to the greatness of the Kettle you intend for your *Balneum*, leaving an empty place before, four or five inches broad for the ashes-hole; then lay another entire Round of Bricks, upon which place your Grate; then upon this lay two Rounds more, leaving before an empty space for your fire-door, as you did for your ash-hole; and then add four entire Rounds for your Laboratory, leaving in the uppermost of

them three little jams or gaps, each an inch wide to let in the air; *viz.* one before, above the fire-door; another behind, over against to this first; and a third on the side, which shall be opposite to that where the Receiver is placed, lest if there were one on that side, the flame might sometimes break the Nose of the Limbeck.

Now for your Kettle or Cauldron, it must have a brim of an inch broad, whereby it may be scituated and equally suspended upon the brims of your Furnace, leaving betwixt it and the Furnace-sides an orbicular space of an inch, to give the fire play round about it, that so it may heat equally the matter contained within it.

In the Fabrick of this Furnace, as likewise in the structure of the four following, observe:

1. That you must not forget to put a sufficient quantity of Lute under, above, and betwixt your Bricks, that they may be strongly cemented together. 2. That you must not place your Bricks just one upon another; if so, your Furnace will not be firm and stable, but by the operation of the fire will soon cleave asunder. Do therefore as expert Brick-layers, and interlace your Bricks one with another.

The Furnace with the fire, or heat, or sand, or ashes, is useful for the distillation, and rectification of all sorts of liquors drawn from Vegetals, Animals, or Minerals, in glass or earthen bodies, glazed with their glass heads, and also for all infusions, extinctions, tinctures, evaporations, &c. made in Cucurbits, Matrasses, dishes,

dishes, pans of glass, or glazed earthen ware.

This is the hardest to be well built of all our Furnaces, and, for the building of it, do thus; first make a sufficient quantity of Mortar, consisting of our Lute, Water, and Plaster of Paris in powder; then with little Tiles make upon a floor, an Oval of one foot in length, and of eight inches in breadth; cement your Tiles well together with this Mortar, which because of the Plaster will render your Furnace more firm and durable; raise this first Oval Lay of Tiles to the height of two inches, leaving a space for your ash-hole; then add one Lay of our Bricks, not filling up the space left for the ash-hole, because it must be almost as high as the space to be left for the fire-room; upon this lay of Bricks, place your Iron-bars for a Grate in the same distance, as they are set in chafing-dishes, placing one little bar upon the ash-hole door, not forgetting to bestow good store of Mortar both above, under, and betwixt your Bricks and Bars: then upon so much of this Furnace as is already built, place small Tiles, cementing of them together in such an order, as may make this Furnace acquire a square figure outwardly, which will make it more solid and firm; and by adding to it a considerable thickness, fit it for the conserving of an equal heat with a few Coals. Upon this first lay of Bricks, (which have in the inside an oval figure though the Tiles hanging over on the outside form a square one) place another Lay of Bricks, leaving a convenient space for the fire-room, which must be something higher than it is broad: but observe

serve that in this Oval lay must be employed more Bricks than in the other, because your Furnace by little and little must acquire a greater circumference towards the top; then build up with little Tiles and Mortar, your square outside to the heighth of your Bricks, so continuing as you build up your Furnace: upon the top of the fire-room lay a little Iron bar, then add another entire round of Bricks without any overture, only a little chinck in the backside of your Furnace over against the fire-room, of two fingers breadth to give the fire air; and this Circle must be in circumference wider by two inches than the last; smoothing with mortar the inside of this round; that the fire may be carried more evenly upwards: this done, place on this last Round a square Iron plate all of a piece; (or of two pieces if you will, sawdering them well one upon another) the place must not be thicker than a shilling, that so the fire may the easilier penetrate and give a moderate heat to the sand; then with our Mortar raise on the inside a Square of an inch thick, to all the four sides of the Furnace, to make a place to put your sand in, or ashes if you will: ashes give not so great a heat as sand; whensoever you desire to moderate the heat of either, you may wet them with a little water.

The Furnace with a naked fire and circular heat, serves to distil *Aqua vite*, spirit of Wine, Aromatick and Balsamick essences, and also the waters of all Plants: in the Brass-vessel, called *Vesica*, with its Helm or Moors head, bordered with

with a refrigeratory of the same metal, making use also of a long pipe of the same matter which passes through one or two great Hogs-heads full of water near the Furnace; and which are in stead of a second and more powerful refrigeratory.

For the building of this Furnace, do thus.

First, take your Brass Vesica, set it upon the ground where you intend to erect your Furnace; then lay a Round of Bricks well cemented with our Lute, so that there be half a fingers breadth left betwixt your Vesica and the Bricks, and an Overture for the ash-hole; then taking out your Vesica, add another Round of Bricks, leaving still room for the ash-hole; which will be about half a foot high: upon these two lays place a Grate of divers little Iron-Bars; then add an entire Round of Bricks, to which add two more but not entire, leaving a space empty for the fire-room perpendicularly over the ash-hole; then add one circle of Bricks entire, without any Overture, upon which place two little Iron-Bars to uphold the bottom of your Vesica. And in this place is terminated the height of your fire-room, which is once again as high as your ash-hole. After this raise by Rounds your Furnace, till you have brought it as high as the neck of the Vesica; which that you may the better do, place your Vesica upon its two Bars, and so it will serve for a measure, to the elevation your Furnace ought to have.

Observe, that this Furnace is not to have any chink on any side whatsoever; but every where, and particularly in the Laboratory, there ought
to

to be circularly half a fingers breadth left empty, that so the air compassing the Vessel, may draw the heat upwards in all the circumference of the Vesica. And this environing heat carries the Spirits from the bottom of the Vessel to its neck, from whence they are raised all together to the top of the cover or Moors head; and if above you stop this empty circumference, your fire will be apt to go out, if it be not excessive great, which also would be inconvenient, because it would consume in vain great quantity of fuel.

The Furnace with a naked fire and small reverberatory serves to distil the Phlegm, the Spirit, and the foetide Oyl of Berries, Woods, Barks, and Roots, in an earthen, or glass Retort well luted, lest it should break in the fire. For the building of this Furnace, you must first consider of the bigness of the Retorts, you ordinarily intend to make use of; and make the circuit of your Furnace so wide, as there may be a fingers breadth left betwixt it and your Retort. Lay then four or five Rounds of Bricks in the said proportion, leaving an empty space for your ash-hole and fire-room; they being not to be separated in this Furnace by a Grate, because else the air coming in at the ash-hole, and meeting with the fire upon a Grate, would kindle it too violently, and so great a fire is not requisite for these substances to be distilled. Then add an entire Round of Bricks, upon which place two Iron bars, upon which you must put the cover of a Pipkin turned with its hollow part upwards, which must be filled with sand to receive the bottom of the Retort: then

then with divers Rounds of Brick raise your Furnace to the heighth of the Retort, or higher; taking care to leave an overture, or open space, to pass the neck of the Retort; which chink you must afterwards with our Lute repair under the neck of your Retort, to hinder the flame from passing that way, and endangering the breaking of the Vessels. Having fitted a Recipient to it, you must lute both their necks together, very close, to the end that nothing of the spirits exhale and scape that way in the distillation. Last of all, you must have an earthen Pan of the capacity of your Furnace, which may cover the top of it, and reverberate the rising flame upon the Retort; and this Pan must be of glazed earth, else it would fly in pieces in the heat: besides, it must have a hole in the middle of its bottom, of the bigness of an Egg, and this to give the fire air, which else would be stifled, and go out.

The Furnace with a naked fire, and great Reverberatory, serves to distil the acid and corrosive spirits; the acid, black and corrosive Oyls in a glass, or earthen luted Retort, or in an iron one. To build this Furnace, you must consider of the bigness of the Retorts you mean to employ, and do as above in the little Reverberatory-Furnace: then make an ash-hole covered with a Grate, and a fire-room covered with its two Iron bars; and at last, a Laboratory of the elevation of the belly of your Retort, as has been said already; only you must on the top of the Laboratory leave a chink on one side of the ash-hole, and fire-room, of two Bricks in heighth, to pass the neck of the Retort.

Before

Before you place your Retort upon the Iron-Bars, you must provide a little earthen cover with ashes, as has been said in the first Furnace of this kind. Then place your Retort, and fit to it a large Recipient, which must be also settled with great care upon a little Joint-stool, and under it must be either Paper, or Linnen, or some soft thing, that it may rest gently and surely upon. Then with our Lute, fill up the space you left for the neck of the Retort, for the reason alledged in the precedent Furnace, luting also the conjunction of the Retort and its Receiver together: this being done, there remains to make a Reverberatory, which may reflect, and beat back the rising heat, upon the Retort: and to this effect, lay five Rounds of moveable Bricks, that is, without Mortar, or Lute, only one upon another, in such a manner as your Rounds go always in diminishing; so that in the first you employ half a Brick less than in the last cemented Round; and in the second, a whole Brick less than in the first moveable Round; and in the third you must employ two Bricks less than in the second, leaving a hole in this last Round, which you shall fill up with pieces of Iron, of such a bigness as shall not slip betwixt the space that is left between the Retort, and the Wall of the Furnace: The reason why I put Iron, rather than Bricks or Stone, or any other solid thing, is, because at the end of the Operation you'll find an excellent *Crocus astringens* of Mars, red as Scarlet, and which will stick to the superficies of all your pieces of Iron.

The

The Furnace, with a little circulatory fire, or *Ignis rota parvus*, serves to evaporate the dissolutions of Minerals, as also of Animals and Vegetals, by a gentle ready heat in a Matraass, either luted, or not luted. This Furnace is made of one only Round of our Bricks, close set together without any Lute or Mortar: you must place a Round or Salt-seller of Lute in the middle of this Furnace; and upon this Salt-seller, filled with sand or ashes, place your Matraass straight, leaving a circumference of two inches between your Matraass, and the Furnace sides; then put your Coal, ready kindled, into this space, approaching your fire nearer to the Furnace than to the Matraass.

The Furnace, with a great circulatory fire, serves to sublime all salts drawn from Metals and Minerals in a luted glass Matraass. This Furnace is made of two equal Rounds of our Bricks, so set together without Lute, that there is a little distance betwixt them, to the end that the Air, entering at these small Overtures, may serve to keep the fire alive: place your Salt-seller, and upon it your Matraass, then your Coals, as we have said in the precedent Furnace.

The Furnace, with a circular fire, and of suppression without any chink; is useful to calcine, and melt down all sorts of Minerals, as also those Animals and Vegetables that require Calcination, either in a Crucible, or a Pot of Earth unglazed: To build this Furnace, lay first upon the ground either a large Salt-seller of our Lute, or two Bricks, and upon them your Crucible

Crucible or Pot; then raise divers Rounds of our Bricks without Lute, till they come two or three fingers above your Pot, leaving in the first rank an interval of a fingers breadth betwixt the Bricks, but in the last ~~row~~ they must be joined very close together: leave also betwixt your Crucible, and the Furnace-sides, a space of two inches broad, which must be filled with Coals up to the top of the Furnace: and from thence this fire is called a fire of Suppression, because the Coals are not only under, but circularly above, and on the sides of the Vessel; and besides, very often we cover the whole Pot with Coals.

The Furnace, with a fire of Suppression, with a chink, is for the distillation of Oyls, and Spirits, and Phlegms of all sorts of resinous Gums, and Wax, in a Glass Retort well luted; it is made as the precedent, only there ought to be in the two last Rounds of Bricks, a chink, gap, or overture for the neck of your Retort to pass through, which must be set, and compassed with Coals, as has been said.

Observe, That in placing your Retort, either in this Furnace, or any of the small or great Reverberatories, there are three things to be taken notice of. 1. That the body of the Retort touch the Bricks of the side, that the Chink is in such a manner as the whole neck may hang out at the Chink, lest otherwise the fire should break it. 2. That the neck of your Retort hang downwards, that the liquor may the easier run into the Recipient. 3. That the end of the neck of your Retort enter into the middle of your Recipient,

ipient, for fear the vapours received should find some passage, even through their luted conjunction.

The Furnace, with a melting-fire, or the Wind-Furnace, to melt the hardest bodies; as Gold, Glass, Stones, in a Crucible, or unglazed Earthen pot: and it is thus made.

Take two Loggs of Wood, or two great Stones, half a foot high; a Barrel knock'd out at the lower end, and having in the other a hole as big as a mans head, then set this Barrel upon the Stones or Loggs, and having laid a Grate upon the uppermost hole, cover all this top with our Lute, and Plaster together; and upon this erect a moveable Furnace, with the fire of suppression, with our Bricks, as it has been said before. The air coming in, with violence under the Barrel, does so blow and light the Coals, that it produces a heat incomparably greater than any other.

Of the Chymical Vessels.

THe Kettle, or Cauldron, serving for the *Balneum Maris*, or Vaporous Bath. This Kettle is of the same matter and form as ordinary Kettles are, that is, Brass; it must have no Bail, but round about it a brim of an inch broad, by which it is to be suspended, upon the brim of the Furnace; this Kettles cover must exactly fit it, and have five round holes; whereof the middle-
C most

most must be the biggest, and capable of the bottom of a *Glass-Cucurbit*, or Body, with its head: the four other are less, and for little dishes of Earth, or Glass, in which Extracts, and Salts are to be dried.

The Vesica, or Copper-body, cover'd with its Moors-head, and bordered with its Refrigeratory, serving to distil *Aqua vite*, Aromatick and Balsamick Essences, Waters, and Spirits of Plants.

This Vesica ought to be of Copper; not tinn'd within, and somewhat round bottom'd: it ought not to be thicker than a shilling, of one foot and a half high, and one foot broad in diameter: in its top it must be a little Convex, not in form of a Pear, as they ordinarily make them; and this, that it may repercute the phlegm of *Aqua vite*, and the Essences. From the middle of this top, rises a neck four inches high, and three in diameter below, but four inches above; whose use is, to make the Cover of the Vesica enter easily, and stick faster, and so you see that this Vessel is not unlike a Hogs-bladder; on one side of the top, rises a little pipe two inches high, and half a finger wide, by which, with a Tin-tunnel you put in again the first Spirits of Wine that come a little muddy, because they have carried along with them the smoot adhering to the conduits of the Alembick: its Cover is of Brass, and consists of a neck half a foot deep, three inches large at the top and bottom, but four inches in the middle, because within it must be five or six Sponges, so fastned with cross-sticks under and
over

over them, as to be kept from falling down into the Vesica, and from rising up into the head: their use is, to draw to themselves the ætherial Spirit of the *Aqua vite*, or Brandy, and to hinder the phlegm (which in the middle of the Operation rises with the Spirits) from passing any farther: for, the Spirit being thin and acry, easily makes way, where the gross phlegm cannot, which therefore falls down again into the Vesica: This neck is terminated in a round Ball, not unlike a humane skull, and is therefore called the Moors-head, from whose middle is derived a Pipe a foot long, and in diameter an inch wide, which goes through a Cauldron or Kettle, sawder'd round about the Moors-head, and which must be of such a proportion, as to contain a pale of water, which is poured in the Operation, cold, to the end that the Vapours that are in the Moors-head may be soon condensed, and dissolved into liquor. This Cauldron is therefore called a Refrigeratory: on one side of the brim there is a little cock, wherewith to empty the water if it grow too hot, and when the Operation is ended. The little moveable neck, by which the Pipe coming from the Moors-head, must be join'd with the long Pipe that goeth through the Hogs-heads, ought to be half a foot long: the long Pipe which passes through the Hogs-heads, must be of Brass, and six foot long, one inch wide in diameter; by little and little diminishing, as it comes nearer the end: This Pipe goes through two Hogs-heads, situated close by one another, by four holes, so made, that the Pipe entring almost at the top of

the nearest, runneth down a-slope, to come out at the last hoop of the furthestmost; afterwards the circumference of these holes must be strongly luted; then fill with water your Hogs-heads, which will be another strong Refrigeratory, and by condensing the Spirits and Vapours in their way, make a copious distillation in a small time.

The open Limbick is made of two different pieces, viz. of a Body or Cucurbit, and its Head. The Body may be of Glass, Stone, or Earthen glaz'd ware, or of Brass: it is always higher than it is broad; broader in its middle than in its bottom, and broader at the bottom than at the top, and round in all its breadth, by which description you see that it is not unlike a Gourd. The head may be of the same matter as the body, and sometimes of Lead; the top of it rises in form of a point, the bottom is broad and proportioned to the body. In its lower part, it hath a brim inwards, on which the Vapours that rise in it fall, and gently distil to the Nose of the Pipe, which is of half a foot long, and conveys the liquors into the Receiver.

These two Vessels, fitted one to another, serve to distil, and rectifie in a sand-fire, *per assensum*, the waters of Plants, *Aqua vite*, Spirit of Wine, the phlegm Oyl, and Spirit of Vegetables and Animals, and to rectifie the Phlegm and Spirit of Minerals. Before you put your Cucurbit into the sand, you must lute two or three slices of white Paper upon the neck of your body, that so you may even it, and make it fit for the head, which must sit close: upon these slices of Paper round about

about the Glass-body, tye a pack-thread with a loose knot; then with more Paper lute together the head, and its body over this pack-thread: the use of which, will be to undo easily these Vessels, one from another, by drawing the pack-thread, and so breaking the Papers, when the Operation shall be ended.

If you expect not a considerable quantity of liquor from your matter, then make use of a small Receiver, which you may hang to the Nose of the Limbick, by a pack-thread fastned to the little button that is on the top of its head; but, if it be big, and you hope for much liquor, then place it carefully upon a little Stool, or upon Bricks laid one upon another.

Blind Limbicks are made of a Cucurbit, and its head, sealed hermetically to it, of the bigness of ones fist: in the top of the head there is a little hole, fit to receive the small end of a Tunnel, by which the Liquors are poured into this Vessel, and in the lower part of the head, there is a nose by which the Liquors distil. Its use is, to rectifie the acid Spirits of Minerals, Vegetables and Animals, so that nothing be lost, nor exhale from them; and therefore you must carefully stop the hole, by which you put in your matter, with a Glass or Cork-stopple.

Twins or Pelicans are two blind Limbicks, whose noses are reciprocally inserted into the Bodies of one another: they must both have a hole in the top, for the use mentioned in the other: they serve to fix and circulate the Oyls, and Spirits, with their Salts, of Animals, Vegetables and Minerals.

The Retort is a glass made up of a great belly, or ball, and a long bending neck, which near the belly is six or eight inches wide, but diminishing, still grows less, till its end be but wide enough to put your finger in; it serves to distil by the side of the Furnace, and ordinarily in a naked circulatory fire, the black Oyls, and Spirits of Minerals and Metals, and the stinking Oyls of Vegetables and Animals.

The Iron or Earthen Retort, is like the Glass-one; only the neck is three inches diameter, near the belly, and two inches in its extremity; to the end, that gross and heavy ingredients may the easilier be put in: it serves to distil the Spirit, and stinking Oyls of Woods, Barks, Roots and Berries.

The Matrafs or Bolt-head is always of Glass, and may be of different sizes: it consists of a round bowl, convex in its bottom, with a neck half a foot long, or thereabouts, according to the bigness of the body; the neck is every where an inch wide: it serves to sublime Mercury, and divers Salts.

The Recipient is a Matrafs of any bigness, whose neck must be broken off four fingers breadth, near the belly; to the end that the extremity of the neck of the Retort may enter into the middle of the body of the Receiver: it serves to receive Waters, Essences, Oyls and Spirits of Animals, Vegetables, Minerals and Metals.

The way to make a Recipient of a Matrafs, is this: Heat the neck in that part where you intend

tend to cut it off, and when it is very hot, wet it, and so knock it with a hammer, and it will break there where it has been wet; if it be not very even, you may with a key even it by little and little.

The Stone, or Earthen Receiver, is of the same figure with the Glass one, only it has a wider neck to receive the Nose of the Earthen Retort; you may use an Earthen Pitcher, if you cannot get a fit Receiver, so the neck of the Pitcher be straight, and the belly big and wide, taking care to lute it close with the Retort: but these Earthen Receivers are seldom used, except it be to receive the Spirits, and stinking Oyls of Wood, Rinds, Roots, Barks and Berries.

The double Vessel in form of a Matrafs, is a Matrafs with a long neck, into which is inserted the neck of another Matrafs of the same bulk; in the ball, though its neck be a little less, and may, if you will, also be shorter, and go but half way into the first Matrafs; you must lute with three or four slices of Paper the Junction of these two Vessels, that nothing may exhale: it serves to extract by Infusion in a Sand-heat, all sorts of Tinctures.

The double Vessel, in form of a Cucurbit or Body, is a Cucurbite of Glass, or Earth, upon whose mouth you place a Cup like your Cupping-Glasses, with the mouth downwards; it having a little brim, by which it is suspended upon the top of the Cucurbite: these two Vessels must be close luted together. The best Lute will be of Flower, or Starch, in form of a hasty Pudding.

This Vessel serves to extract by infusion the tincture of Aromatick Flowers, that so nothing may be lost of their Spirit, and is fitter than the Pitcher ordinarily used to this purpose.

The Bell is a great Glass-Vessel, like the Bell Gardiners use to cover Melons withal. The use of this is, to draw the Spirit and Oyl of Sulphur, of Salt Armoniack, of Antimony, and Mars, or Iron, by covering with it an Earthen Pan; and if you turn it with the mouth upwards, it serves for precipitations, and washings or lutions.

The Glass-Tunnel, though it be open at both ends, yet we reckon it among the Vessels; as well, because sometimes by stopping the little end, it is really one, and contains Liquors, as because there is something worth observation in its Fabrick or making; it must have a straight long neck: because being used in the blind Alimbeck, it must reach as far as within the Body, and not spill upon the inward brim of it; it must not have so large a belly as the Tin-Tunnels, lest when you separate your distilled Oyl from their Phlegm and Spirit, much of the Oyls be lost by sticking to the large sides of your Tunnel. It serves to separate the Oyl from the acid Phlegm distilled with it, which is done by letting these two Liquors settle in the Tunnel, and then taking away your finger which stopped it, and giving leave to that Liquor which is lowermost to run out; which done, stop again the neck of your Tunnel, and let the remainder of your Liquor run into another Vial. It may be lined with a cornet of

of brown Paper, through which are filtrated Lixiviums, Washings, and divers other things, and may also stand you in stead of a Tin-Tunnel.

The Crucible is a pot ; of which there are of different sizes. It is made of the same earth as white ware ; it is round without a handle very narrow at the bottom, and wider and wider towards the top : it has a little Sinus or Cavity, by which the thing melted is poured out : it serves to calcine and melt Minerals and Metals, especially in a small quantity.

The Camion, is a Pot like an ordinary Chamber-pot with a handle to it. It is made of Potters Earth, and Sand ; and therefore it holds out strongly in the fire, which your Pots made of ordinary Earth do not, but fly. There are two sorts of these Pots, some are glazed, or leaded, and these serve to evaporate and dry ; some are unglazed, and they serve to melt and calcine Minerals, and Metals, and every thing that needs such preparation, especially if you have a great quantity to prepare, these Camions being bigger than Crucibles.

A Pan is an Earthen Vessel straight-bottom'd, and flat and wide-mouth'd. There are two sorts : Glazed, that serves to evaporate in a naked fire Extracts, Syrups, Pills, Plasters, &c. and Unglazed ones, which serve to evaporate in a Bath, or Sand heat, Salts, Crystals, &c. and to wash salt Remedies.

In some of our Operations, we make use of Utensils of the Kitching ; as Frying-Pans, to make
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the Oyl of Eggs; Kettles, and Brass Basins, to congeal the Cryſtal Mineral, and make our Cauteriums.

Of the Chymical Fire.

IN the governing of the Chymical fire, there are four things to be conſidered; *viz.* 1. The materials of your fire; 2. The interpoſition of your fire; 3. The diſpoſition of your fire; and, 4. The ordering, governing, or regimen of your degrees of fire.

The Materials are of five ſorts; whereof two are common, and the other three extraordinary, *viz.* Coal, Wood, a Lamp, the Beams of the Sun, helped by a Burning-glaſs, and Horſe-dung.

Your Coals muſt have two conditions to be good; they muſt be of good Wood, and of any Wood rather than of Oak, becauſe all Oak-Coals flyes, and may break your Glaſſes. 2. They muſt be very dry, that they may make a quick live-fire, and ſpare you the labour of blowing; the beſt Coal is that which is of a middle ſize, round, and of a Beech-Tree: the Wood muſt have the ſame qualities, for the ſame reaſons.

The Lamp is a Tin-Box full of Oyl, in which ſwim three or four wicks, or links: this is ſet in the Lamp-Furnace; which ſerves to diſteſt or diſtil, with a long and moderate heat, without any obligation of being preſent at the operation.

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Because a Lamp-fire is very seldom used, we have not in the description of Furnaces made any mention of a Lamp-Furnace, neither will we here say any more of its figure, and proportions, nor of the Oyl that is to be used; being resolved to set down all these things more particularly in some of our Operations.

The Sun-Beams serve to extract Tinctures; to make long digestions, to Calcine some Minerals, especially when the said Beams are gathered by a Burning-glass: which way we shall also describe at length in some of our Operations.

The Horse-dung is used by putting into it Vessels sealed up hermetically, or close stopped, there to ferment and circulate. We shall also describe this way in some of our Operations.

The Interposition of the Chymical fire, is of four sorts. 1. When between the Vessel and the Fire, there is nothing but two Iron-Bars, or a little Round to set the Vessel on, and this is called working by a naked fire. 2. When between the fire and the Vessel, there is an Iron-plate, or Brass Kettle, or an Earthen Pan, full of ashes or sand, into which the Vessel is sunk more or less; and this is called, Working with a Sand-fire, or of Ashes. 3. When between the fire and the Vessel, there is a Kettle full of Water, into which your Vessel is set up to the neck; and this is called, working by a *Balneum Maris*, or *Marie*, that is, a Sea-Bath, or *Maries* Bath. 4. Is when between the fire and the Vessel, there is a Kettle full of Water,

Water, which Kettle is covered, and its Cover has five holes in it, upon which are placed as many Vessels to receive the Vapour of the Bath; and this is called Working by a Vaporous Bath.

The disposition of the Chymical fire is of four sorts: 1. Where the fire is placed only under the Vessels, as is done in the five Furnaces following, *viz.* of the great and small Reverberatory of the circulary fire, of the sand fire, of the *Balneum Maris*, and Vaporous Bath; and observe, that though in the two first Furnaces the heat is by Reverberation as strong above as below the Vessels, yet the fire is only under them. 2. Where the Coals are laid only round about the Vessel upon the ground; and this is called *Ignis rotæ*, or a circulary fire. 3. Where the Coals are not only laid round about the Vessel, but are heaped up to the top of it, and that is called a fire of half-suppression; but, if you cover even the top of your Vessel with Coals, then 'tis a fire of whole-suppression. 4. Where the fire is altogether above the Vessel, which is also a fire of suppression; and is used in distillations *per descensum*, for which Operation we make use of a great Earthen glazed Tunnel, of a little Iron Plate full of holes, and of a Kettle full of fire: which way of operating, we will teach more distinctly in some of our Processes.

The Regimen or Degree of the Chymical fire, is also of four sorts: 1. When you give and continue a small fire, all along the Operation, as is practised in the first sublimation of dulcified Mercury. 2. When you give a moderate heat either

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at first, for fear of breaking your glasses, or by little and little, when there is the like danger; and then maintain this heat in such an equality as to augment and diminish it when it passes the limits of moderation, as it is practised in the distillation of the Spirit of Wine; and in a sand-fire, where you stop your ash-hole door, and almost all your fire-room door; as also the hindmost Register, that so you may keep your Coals in that heat that they are in. 3. When you augment the heat by degrees, till you come to the last and greatest you can procure, and that soon after, that your operation ceases as it is practised in the distillation of the Oyl of Bricks. And observe here, that all the activity of the fire is divided into four degrees; a little fire is the first degree; a moderate is the second degree; a great fire is the third; and a very great and intense one is the fourth. 4. When you have augmented the fire by degrees, and are come to the last, which you maintain the space of some hours, as it is done in the distillation of the black Oyl of Vitriol, or Colcothar.

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The Spirit of Salt.

TAKE a quantity of Potters-Earth, cut it into slices of the length, breadth and thickness of a finger, and set them in order upon a Grid-iron; which you shall set upon red Coals in a hot Oven after the bread is drawn: when they are dry on one side, turn them on the other; then take them out, and powder them in a Mortar: and keep this Earth, thus dried and powdered, as well for this Operation, as for divers others.

Mingle five parts of this Earth, thus prepared, with one part of common Salt, beaten to powder, but not decrepitated; with this matter fill a Glass-Retort, of an ordinary size, which must be luted up to half the neck; set it in a close Reverberatory, and fit it to a large and capacious Glass-Receiver. Give your fire by degrees, coming as soon as you can to the last degree, which continue twenty four hours, or till your Recipient seem cold, though the Retort be violently hot; from whence you may infer, that your matter hath sent out all its Spirits: out of one pound of Salt by this method, you'll draw nine or ten ounces of Spirits.

Observe, 1. This Earth is given to the Salt as an intermedium to hinder its fusion: for Salt melts in a great fire, and being once melted, becomes so fix, as there is no raising of its Spirits to distil them.

Observe,

Observe, 2. That we rather make use of a Glass, than of an Earthen Retort; because, the Spirits of Salt being very acid, and something corrosive, might so penetrate the Earth of the Retort, as to lose something of their virtue, and dull their activity; therefore you must also keep your Spirit of Salt in Glass, not in Earthen Vessels.

Observe, 3. That the Salt must not be decrepitated, that is, separated from its Phlegm, nor the Clay absolutely dried, or heat red in the fire: for it is necessary, that there should remain some watrish humidity in both: to the end, that this phlegm coming, first in distillation, may help the acid Spirits, and be as a Vehicle to them; otherwise, were your fire never so violent, if there were no Phlegm, you would never obtain any acid Spirits.

Observe, 4. That your Retort must be filled up to the neck, because the Spirits, in their first rising and separating themselves from their grosser parts, would, if there were any *Vacuum*, presently re-impregnate themselves, and be so fix'd, as that no power of fire would be able to raise them again, and make them Volatil: whereas the Vapours raised, meeting with no empty room in the Retort, are not able to condense there, but by the fire are forced into the Recipient; into which they enter in form of a white Vapour, which by little and little cools, and condenses, and at last dissolves into a Liquor white and clear as water.

Observe, 5. That that Phlegm which first comes

comes is little in quantity ; and if you will have your Spirit strong and pure, you may deflegmate and rectifie it in a sand-heat.

Its vertue and use is, It resists all corruption taken interiourly, and outwardly applied ; and for this reason in venomous and malign Feavers, we mingle three or four drops of it with a Cordial Julip : and for a preservation against the Plague, we put a spoonful of it into a quart of Oxycrate, and so rub the body all over before a good fire : It whitens the Teeth admirably, being mingled with a little Water, or some syrup ; it's a powerful diuretick against suppressions of Urine, caused by the oppilation of the conducts thorow which it should pass : it drives the Gravel out of the Kidneys and Bladder ; and so is specifick to break the Stone of the Kidneys and Bladder ; that if you put a Stone cut out of a humane Bladder, into a quantity of Spirit of Salt, it will dissolve immediately without fire, or any addition of any thing, though it were never so hard ; it is used to dissolve Gold, and make it Potable : if you do whet its Vertue, by putting to it a little Salt decrepitated before you put your Gold in it ; alone it dissolves Pearls and Coral.

The marks whereby you may know and distinguish this Spirit from others, are these ; 1. That it is clear and white, drawing to a citrine, transparent colour. 2. Being newly made, it is Vaporious, and seizes the nose presently, but without stink ; and being old, it has no odour at all. 3. That upon your tongue it is of an acid biting saltish taste. 4. It nei-

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ther corrodes, nor tinges of any colour its cork-stopple.

Spirit of Niter;

MIngle one part of fine and well purified Niter, with four or five parts of Potters Earth prepared, as in the Chapter of Spirit of Salt; fill with this, a Glass-Retort well luted up to its neck; place it in a close Reverberatory Furnace, fitting to it a large and capacious Recipient; give your fire by degrees, till you come to the highest, which continue twenty four hours. The Phlegm will come first, and in small quantity, and also with a little Spirit, which will appear in the Recipient in form of a White Vapour; a little after the pure Spirit will come, appearing in form of red Vapours, which will make your Recipient bright, and red as a Ruby. Out of one pound of Niter thus distilled, you may have four ounces of Spirit.

Obs. 1. That you must be very exact in luting your Retort close with your Recipient; lest many of your Vapours should exhale: and however, the Artist must have a care of coming too near at that time; lest the Sulphureous, and Malign Vapours of the Niter (which our Authors call the flying Dragon) should offend his Brain, and Nerves, and make him Paralytick, by the fusion and resolution of the humours of the Brain, which at that time

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borrowing from the subtle Nitrous Vapours an extraordinary thinness and penetration, would easily insinuate themselves into the nerves, and by their abundance, cause a total Obstruction.

Obs. 2. That we give the Potters Earth to Niter, as we do to Salt, to hinder its fusion: now Niter is very easily melted, because it is the Body which helps other Bodies to be so too; by reason of its great thinness, the abundance of its Sulphureous substance, and its penetration; but when once it has been melted, it becomes so fix, that, having lost all its Sulphur, it can neither evaporate, nor be inflamed, though you put it into the fire: Then therefore it is called Salt of Niter, being fix as Salts; whereas before its fusion, it was so strangely Volatil, that when you did but put a Coal into it, it presently was in such a flame, that it was almost quite consumed.

Obs. 3. That for this Operation we make use of very fine purified Niter; because the purer it is, the less it hath of fixed Salt in it, and therefore yields more Spirit; you may learn in the Chapter of Crystal-Mineral, how Niter is purified, and that in its purifying, it is devided of its fixt Salt.

Obs. 4. and 5. That the Retort must be of Glass, and filled up to the neck, for the reasons alledged in the precedent Operation.

Obs. 6. That the Phlegm which comes first in the distillation, is in a very small quantity, and cannot be separated from the Spirit by rectification; because this Spirit is so Volatil, that it comes of a sudden conjointly with the Phlegm, and so
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the rectification would be unnecessary; the Phlegm being in so small a proportion to the Spirit, as not to be able to make the last lose any thing of its activity and energy.

Its Vertues and use: This Spirit is Corrosive, not only applyed to Warts, rotten Flesh, and the Gangreen, but it corrodes and dissolves Mercury, and the other Metals; it is often to be preferr'd to *Aqua fortis*, for these two uses; or it is not so burning in its action upon the flesh, as *Aqua fortis*; and it is much fitter for the dissolutions which are made by it of Mercury, and other Metals and Minerals, in order to the preparing of some remedy to be taken inwardly, as well because pure Niter is an acid aperitive, and pure Vitriol is an acid vomitive; as because Niter, being a Sulphureous Salt, drawn from temperate Animals, and Vitriol, a terrestrious Salt drawn from Minerals, by their union in the composition of *Aqua fortis*, is produced a malignant quality. Nay, it is fitter than *Aqua fortis*, for the dissolution of Minerals in order to make Fucuses for the face, because the Spirit of Niter, applyed to the skin, leaves but a little yellow spot, which may be easily taken away; whereas *Aqua fortis* leaves a deep orange-spot, so sticking, and adhering, that it can never be taken out, but with the loss of the skin; from whence we may infer, that a *Fucus* prepared with *Aqua fortis*, should rather black than whiten the skin.

The marks to distinguish this Spirit, are these:
1. That it is of the same colour and transparency as the Spirit of Salt. 2. That it is very vaporous

and stinking, coming near the stinking smell of *Aqua fortis*. 3. It is too corrosive and biting, to be tasted upon the Tongue; but, to try its goodness, pour out some drops upon a Brass half-penny, and, if it be right, it will presently boil, and makes the half-penny stir, it produces a blew colour in the said half-penny. 4. It corrodes, and makes its Linen-stopple look yellow, as *Aqua fortis* uses to do; sometimes the Spirits of Vitriol and Sulphur are sophisticated by putting a little Spirit of Niter, or a little *Aqua fortis* into common Water, till there result an acid taste, which is not caustick: but you shall perceive this cheat, if having rubbed a Paper with the Spirits of Vitriol and Sulphur in one place, and the Spirit of Niter and common Water in another place, you present the said Paper to the fire; for then the place rubb'd with the Spirits of Vitriol and Sulphur, will grow black and break; and the place rubb'd with Spirit of Niter in common Water, will only grow yellow, and not break.

The Spirit and black Oyl of Vitriol

TAKE an Earthen-pot unglazed, of the Earth they make Crucibles of, fill it up to the brim with good green Vitriol; set this pot upon a Salt-feller in a great Circulatory fire: in two hours time, or thereabouts, your Vitriol having first dissolved into a Liquor, will be dried, deflegmated,

mated, and at last coagulated into a grayish lump; then take out your pot, let it cool, and, when cold, put your matter into a Brass or Iron Mortar, and powder it.

Take a Glass Retort, well luted up to half the neck; fill it with the said Vitriol, and place it according to Art, in a great Reverberatory fire, fitting to it a great Receiver. Give your fire by degrees, coming as soon as you can to the last, which continue till you perceive, in the top and sides of your Receiver, a kind of black Veins that trickle down to the bottom; these are the black Oyl which begins to distil. Then unlute your Receiver from its Retort, and separate by inclination, the acid Spirit of Vitriol, which hitherto has been distilled, and which is of a white and transparent colour like Water, and which entered your Receiver in the form of a white Vapour.

By this time your Vitriol will be calcin'd into a red colour, and brought to be a Colcothar, which yet retains its black Oyl. Which to extract, you must again fit the Receiver to its Retort without lute; for else, the neck of the Retort being exceeding hot, would presently break by the approach of the cold, and moist Lute; continue then your fire, and give it in the highest degree, for the space of six, or eight hours, till your Receiver be cold, though the fire be vehement under the Retort, by that you'll perceive that the contain'd matter has yielded all its black and thick Oyl. Let your fire go out: then take out your Retort, which by the

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long violence of the fire will seem somewhat sunk and straitned, and in it will remain a Colcothar, destitute of its phlegm, its Spirit, and its black Oyl; but yet containing the fixed Salt of Vitriol, and therefore is not so sharp and acrimonious as the first Colcothar. 'Tis out of this second Colcothar, that you may extract the *Caput mortuum* of Vitriol, by making a *Lxivium* of the said Colcothar, to extract its fixed Salt. Out of one pound of green Vitriol, you'll have nine or ten ounces of Spirit, with its Phlegm, and half an ounce of black Oyl. The acid Spirit of Vitriol contains much Phlegm, which came first with it; therefore if you desire to have a purified Spirit, you must evaporate the Phlegm by putting this Spirit Inflegmated into a Matraass not luted, which set upon a Salt-feller in a small Circulatory fire, till the whole substance be half diminished, and begin to look a little yellowish; if you continue this Evaporation any longer, your Spirit will become blackish, drawing near the colour and acidity of your Oyl of Colcothar.

If reciprocally with the said black Oyl of Colcothar, you desire to make a white acid Spirit, do but mingle in a Matraass one dragm of the said Oyl with an ounce of common water; then you shall see that the said Oyl will presently go to the bottom; and will so heat the neck of the Matraass, that you will scarce be able to hold it in your hand. Mingle them well by agitation, till the water grow blackish, then through Paper filtrate the said liquor, and there will come a clear acid

acid Spirit, as yellow as Gold, which will have the same force and virtue as the common Spirit of Vitriol; the Paper retaining the black and thick *fæces*. From whence we may conclude, that this clear Liquor, which we call Spirit of Vitriol, is nothing but a small portion of the true Spirit mingled with a great deal of Phlegm, and that this black Liquor which we call Oyl, is indeed a pure Spirit of Vitriol, entirely dephlegmated, but because of its Sulphureous blackness and thickness, it is improperly called Oyl, being somewhat unctuous to the feeling, though it be not at all inflammable, as all true Oyls are.

Obs. 1. That you must dephlegmate the Vitriol, and powder it well before you put it into your Retort; else you would not draw off the Spirit, but the Phlegm alone: for, the matter would coagulate in the bottom of the Vessel into a lump, which sticking close to the sides of the Retort, would so retain all the Spirits, that a strong fire of forty hours lasting, would scarce be able to reduce this mass to powder: therefore it is better to dephlegmate and reduce to powder your Vitriol, before it be put into the Retort.

Obs. 2. That we give no Intermedium to Vitriol, as we do to Salt and Niter; because, being a terrestrious Salt, it cannot be melted, and by consequent, cannot fix and retain its Spirits within its self: so that, provided it be dephlegmated, the Spirits are easily raised, and distilled by the violence of the fire.

Obs. 3. That you need not fill your Retort up to the neck with your matter, because the Spirit of Vitriol, having not so much tenuity as the Spirits of Salt and Niter, is not in danger of re-impregnating and fixing its self in its own masse.

Obs. 4. That the Retort must be of Glass, for the reason alledged in the Spirit of Salt.

Obs. 5. That you chuse good Vitriol, not too dry; for it will yield more Spirit and Oyl: therefore that which comes from *Germany* and the *Low Countries*, is better than the *Roman* Vitriol for this effect.

Its virtue and effects: Both the white Spirit, and the black Oyls, are Acids, which pleasantly and excellently do cool, desopilate, and resist all corruption: and therefore they are frequently, and with good success, made use of for the Liver and Kidneys, in burning and Pestilentious Feavers. The dose is five or six drops of the Spirit, two or three of the Oyl, either in Water, Broth, or White Wine: It serves for the dissolution of Metals; and in Surgery it is used, either pure, or mingled with a little water or *Mel rosatum*, to touch the ulcers of the mouth.

The first and second *Colcothar* are both an excellent Astringent, given in violent *Diarrhæas*, *Dysenteries*, and Hepatick Fluxes: or, mingled with some unguents, it stops bleeding Wounds.

The Marks to distinguish the Oyl of Vitriol from other, are these: 1. It is very black: 2. It is not only acid, but caustick: 3. It is very heavy;

heavy : 4. It seizes the nose, with a strong Vapour, when new made ; and in all these four conditions, it is like the Oyl of Sulphur,

As for the Spirit, it is known by its pleasant acidity, by its yellowish colour : and because, being old, it yields no smell, no more than Spirit of Sulphur, neither doth it corrode, or make its stopple yellow ; the Spirits of Niter and *Aqua fortis*, are distinguished from it by their smell ; and because they corrode, and change the colour of their stopples : Spirit of Salt is known from it, because it has a brackish taste, and smells strong when new, being much more intolerable and unpleasant than Spirit of Vitriol.

Aqua Fortis.

TAKE a Glass-Retort luted up to half its neck, put in it equal parts of common Niter, and green Vitriol, not dephlegmated, but they must be beaten to powder in an Iron Mortar before : fill but two thirds of your Retort, leaving a third empty, for else the Vitriol being melted by the Niter, would, it may be, rise, and run in substance into the Recipient, before the distillation of the *Aqua fortis* could be begun.

Set your Retort in a little Reverberatory, or in a little Circulatory fire, (a great Reverberatory being not so necessary here, because the Niter is of it self so volatil ; and having melted the Vitriol, it makes it likewise capable of yielding its
Spirits

rits without a very violent degree of heat.) Give your fire by degrees; continuing the first degree, till the phlegm, which will appear in a white vapour in the Recipient, be distilled; otherwise, if at first you did give a great heat, the Niter and Vitriol together would boil over your Vessel, and in their own substance run into the Recipient: When your Recipient begins to fill with red Vapours, (which is the sign of the Spirit's coming forth) augment your fire, and cover your Retort with Coals; if it be in a Circulatory fire, continue this heat till your Recipient begin to lose something of the brightness of its red colour, and till it become cold, though the fire be vehement under the Retort: then the matter has sent forth all its Spirits, and you shall find these red Vapours dissolved all into a white clear Liquor, as water: Out of one pound of common Niter, and as much of green Vitriol unde-phlegmated, you may have sixteen ounces of *Aqua fortis*.

Obs. 1. That though the Spirit of Vitriol cannot be drawn from Vitriol unde-phlegmated, yet *Aqua fortis* may; because being in company with the Niter, it cannot, after the distillation of its Phlegm, coagulate in a lump, which might fix and retain its Spirits; the Niter, by its opening Sulphur, keeping the Vitriol porous and vaporous.

Obs. 2. That *Aqua fortis* may be very well made with dephlegmated Vitriol, and fine Niter; and then it is so strong and corrolive, that it is *Aqua regalis*, and can dissolve Gold and Silver: but
because

because we do not ordinarily need in Chymistry so strong a dissolvent, for the frequent dissolutions we make of Mercury, of Tin, of Bismuth, and of Silver; we are content with *Aqua fortis* prepared as has been taught.

Its virtue and use: This is a very caustick burning water; some do touch Warts and Corns with it: but it is dangerous so to do, and our Chymistry will afford us gentler and fitter remedies, which I shall set down hereafter. It serves to dissolve your Metals and Minerals: the Dyers use it, to give a strength and penetration to their Colours.

The Marks to distinguish it, are, 1. It is yellowish. 2. Stinks very much. 3. It yellows and corrodes its stopple, and the bladder and pack-thread that are employed about the stopping of it. 4. If you pour a drop or two of it upon a Brass-half-penny, it makes it stir, and look green.

*The Spirit and black Oyl of
Sulphur.*

TAKE a great Stone, or unglazed Earthen Pan, put it into a pound of common water; in the middle of this Pan, set a little Stone-pot, and upon this Pot, place a little flat Earthen Cup full of sand: in the mean time, reduce into powder four pound of Brimstone, and of this
put

put one spoonful into the middle of the sand; then take a great Coach-wheel Nail, and heat it red hot, and with a pair of Tongs put the head of it into this Brimstone which is in the sand, presently the Brimstone will be in a flame: therefore have ready a Glass-Bell well proportioned to the bigness of your Pan, and with it cover your Pan, as soon as the Brimstone begins to take fire; and that you may lose nothing of the Vapour, stop with Linen the junction of the Bell and Pan; from this inflamed Sulphur will rise an abundance of white Vapours, which will be converted, part of them into acid Spirits, which being received in the Pan, impregnate the Water; and part of them into yellow Flowers of Sulphur, which will be found sticking to the sides of the Bell and Pan, and will form a little skin upon the superficies of the Water. After a quarter of an hour, the Vapours being ceased, and condensed into Spirits and Flowers; break that skin, that the Water may be at liberty to re-impregnate it self with new Spirits, at a second flagration; then put another spoonful of Sulphur, inflame it, cover it, and in a word, do as before, continuing this till all your Brimstone be spent. When you have done, there remains a muddy acid Water, into which put all those Flowers of Brimstone, which you find sticking to the sides of your Pan, or Bell, as likewise those that swim upon the Water; put them all together into a Matraass of an ordinary size not luted, which set upon a Salt-seller in the little Circulatory fire; the Phlegm will be evaporated, the Flowers will

will dissolve into the Spirit, and the Spirit will wax black; then with a wet clout take out your Retort, and pour out your Liquor thus hot, into a white Earthen Bason. The Spirit being cool, you'll find in the bottom the Flowers congealed into a bright yellow lump. By this method in one day, out of four pound of Sulphur you may draw half an ounce of black Oyl; and if you put an ounce of Water upon one dram of this Oyl, mingling them well in a Matraass, and then filtering them through a course Paper, you may have that which is called the Spirit, or Acid of Brimstone, of a yellow bright transparent colour like Gold. Or, by another way, do but evaporate the two thirds of your pound of Water, impregnated with the Spirit of Brimstone, and there will remain four ounces of a yellow inflegmated Spirit.

Obs. 1. That we put sand into the little Earthen Cup, lest the Brimstone, inflamed, should break it; which it would do, were it empty.

Obs. 2. That, Water is put into the Pan, that the Spirits may be the better gathered, without which they would be apt to be consumed to no purpose, in the superficies and substance of the said Earthen Pan.

Obs. 3. That the Matraass in which the Evaporation is performed, must be short-neck'd, that the phlegm may the easilier evaporate; therefore let it be two inches high.

Obs. 4. That we pour the said Spirit hot into a white Bason, and not into a glazed one, lest it should corrode the Lead of the Vernish, and so be weakned

weakned, and loaden with a blackness, which no filtration would be able to take away: and the reason why we pour out the Liquor hot, is, because if we did let it cool, the Brimstone would congeal into such a lump, as could never be come by, without breaking the Matrass.

Obs. 5. That, if by this method there is but little Spirit drawn from such a quantity of Sulphur, yet by all the other processes you meet with in Authors, you shall draw less.

Its virtue and use: It cools and purifies the Blood, resists Corruption, appeases the Burning Feavers. 'Tis a very good preservative against the Plague, taking three or four drops of it in a glass of water ever morning. It is most excellent to touch Venereal Ulcers and Warts; it dissolves Pearls and Corral: It fixes Mercury; but cannot dissolve him, no more than the other Metals.

The Marks by which it is distinguished, are the same by which Spirit of Vitriol is known from other Spirits; but all the difficulty is to distinguish Spirit of Vitriol from Spirit of Sulphur.

Spirit of Wine.

TAKE as much good *Aqua vite*, as will fill your Vesica or Copper body half full: set it in a naked Circulatory fire; fit to it its cover or Moors-head, bordered with its Refrigeratory, having

having before hand put into the Vesica's long neck five or six sponges, held up by two sticks set a-cross, and kept from falling down or rising up: Then to the Moors-head Nose fit the moveable Pipe, which shall join it with the long Brass Pipe that goes through the two Hogs-heads of water; then starch on long slices of Paper upon all the conjunctions of the Pipes; and over the Paper, put cloth-ones, which bind fast with pack-thread: fit your Receiver of glass to the lower end of the long Brass Pipe that goes through the Hogs-heads; set your Coals on fire, and add some wood to them, to make at first a great fire, which may raise and distil your Spirit quickly. In a very little time, it will come not by drops, but in a small stream like a Fountain. In all the course of this Operation, there must be singular care taken that the distillation be equal and moderate, so that as soon as you perceive white vapours in the Recipient, diminish your fire; either by throwing ashes on it, or taking a good deal of it away. For these white Vapours are the Spirits which come in such an abundance, that they have not had time to condense, neither in the Moors-head, nor in the long Pipe, and therefore will easily scape out of your Receiver, and so the best of your Spirit will be lost to no purpose: besides, whensoever the Distillation is performed in too big a stream, though there be no Vapours, yet diminish your fire. But if it should come drop by drop, then augment the heat; you may take notice that the first quart that comes, though excellent and pure, yet it is not clear,
but

but muddy, having contracted a foulness from the sides of the Vessel; therefore throw it in again with a Tunnel by the little Pipe, which on purpose is in the top of the Vesica, and presently stop the said Pipe close with its Wooden stopper, the Spirit that shall from henceforth be distilled, will be clear and transparent. By this method, out of thirty quarts of good *Aqua vite*, you may draw eighteen quarts of good Spirit of Wine in a day, and in one only Vesica. You must observe often, all along your Operation, whether your Spirit be well deflegmated; which try thus: Put as much Gunpowder as you can take up with your two fore-fingers and your thumb, into a little spoon, which fill with Spirit of Wine; then fire it with a Match, or lighted Paper: for if this Spirit take fire and burn blew, till it be consumed, and then fire the Gunpowder, and that at last there be no mark of any moistness left in the spoon, you may be sure your Spirit is very pure, and very good.

The last Spirit that comes, is not good, as well because it brings phlegm with it, as because it smells of the *Empyreuma*, or burning; and having been long in the Vesica, is somewhat impregnated with the substance and qualities of the Copper. Therefore set it aside to be used exteriorly, or in Mechanicks; or else rectifie it again with new Brandy. Whensoever you perceive that there comes some muddy whitish drops; which make the clear Spirit which was in the Receiver change its colour, then know that it is time to make an end of the Operation: for these drops are the

the flegm which produces this effect upon the pure Spirit : for if you put two or three drops of Water into good Spirit of Wine, it will do the same thing. There will remain in the Vesica twelve quarts of flegm muddy and greenish from the Copper ; this tincture is to be thrown away.

This Spirit of Wine does also contain in it self something of the Copper : nevertheless it may be taken safely by the mouth, because that Copper extracted by this Spirit, is not so dangerous as Verdigreece extracted out of Copper by Vinegar. Nay, the Copper does contribute much to the preservation of this Spirit in its force. But, if in a Glass Alembick you will take the pains to rectifie it, and reduce your eighteen quarts to fifteen, then you may without scruple use it in all manners ; and in the bottom of your Cucurbit, there will remain a green tincture, which is a flegm impregnated, with the Salt and Sulphur of Venus, or Copper. Which tincture evaporated, congeals into blew Crystals ; then powdred and dissolved in common Water, filtred, and then evaporated a second time, will again in a cold Cellar congeal into blew transparent Crystals of Venus.

Its virtue and use : Spirit of Wine is a powerful Dissolver for all sorts of Gums and Rosins, as well for the use of Physick, as to make *China-Vernish* : it is good for Burnings, Contusions, Gangreens, Pallie, cold Fluxions ; particularly, if it be circulated with Salt of Tartar, it serves to extract perfectly the tincture of all Barks, Rinds,
E Woods,

Woods, Berries, Aromatick, Balsamick, and Resinous, as also of Opium; to make of them Magisteries, Extracts, Essences and Syrops.

The Pblegm, Spirit, and Oyl of Turpentine.

Fill half the fourth part of a Brass Vesica with clear *Venice* Turpentine; pour upon it common Water, till the Vessel be but half full, lest if it were fuller, the Turpentine should boil up, and run in its own substance into the Receiver. Fit to the Vesica the Moors-head, bordered with its Refrigeratory, omitting the sponges in the neck, because the Liquor here is not spiritous enough to pass through them. Give your fire, and govern your Operation altogether as has been taught in the Chapter of Spirit of Wine.

The Flegm, Spirit and Oyl, will come altogether; but the Flegm will sink to the bottom of your Receiver, whereas the Spirit and Oyl will swim above. There will remain in the Vesica a thick substance called *Colophon*. Separate your Flegm by a Glass-Tunnel, and keep the Spirit and Oyl incorporated together. This Oily Spirit is sold by Druggists in *Paris*, under the name of Spirit of Turpentine: they have it from *Provence*, and afford it us at a much cheaper rate, than we could make it at *Paris*.

How

How to separate entirely the Spirit from the Oyl. Fill a Glass-Retort half full, (your Retort must be luted, only there must be upon the neck a long empty space left to see into it, that so you may perceive towards the end of the Operation, of what colour your Oyl is:) set your Retort upon a Round, in the little Circulatory fire, and distil your matter, till you have three parts of Spirit out of it, and that in the bottom of your Retort you see a thick red Oyl, almost of the colour of a Pomgranate. Take then your Retort off from the fire, and pour out this hot Oyl into an Earthen Pan of white ware. As for the Spirit which you have in the Receiver, rectifie it again in the same Retort, and by the same sort of fire, so as to distil three quarters and an half in Spirit, and the rest remain in form of a thick red Oyl: which done, pour out the said Oyl to that which you have already. Then rectifie your Spirit again, doing thus, as long as you can extract any Oyl out of it: then your Spirit will be right and pure, destituted of its Oyl, and without smell; but it will still have its force and acrimony.

The Use and Virtues of the Spirit. 'Tis a powerful Diuretick, and makes the Gonorrhæa's flow abundantly, by melting and inciding those tough and clammy humours, which stop the passages of Sperm and Urine: It dissolves the soft Stones which are not yet strongly petrified: It dissolves all Gums better than Spirit of Wine, and that without any additional heat, either of Fire or Sun; Therefore it is used in making the best Vernish: it dissolves with a small heat Brimstone,

stone, and makes a better Balsam of it than that which is made with the oyle Spirit of Turpentine, bought at the Druggists. The *Provencals*, who are great Drawers of Essences, use it in all their Operations, either upon Flowers or Woods, Barks, Leaves or Berries, both Aromatick and Balsamick, because this Spirit being naturally unctuous, is easily impregnated with the oyle Essence of these Druggs; and because it has no smell of its own, it easily takes the Aromatick or Balsamick Odour of any of those that are infused in it, and then distil it in the Vesica, as we do Spirit of Wine. For do not think that their Essences are pure, and drawn from their Druggs alone: no, they are nothing but Spirit of Turpentine, impregnated with the Essence of them. So that this Spirit has a double use, for it extracts the Essence, and multiplies it considerably.

The Virtues and Use of the red Oyl: It is a Sovereign *Anodynum* for the wounds of nervous parts, because it has lost all its *Acrimony*, which consisted in its Spirits.

The

The Salt of Tartar, of which is made the Oyl of Tartar by solution of the Salt.

Take equal parts of pure Nitar and good *Tartar*, either white or red; powder them apart very fine: then mingle them in a glazed earthen Pan; then, with a red hot Iron, stir all this masse, until the Niter be entirely consumed and evaporated, which you shall know by the ceasing of flagration or burning. Thus your *Tartar*, being perfectly calcin'd, will afford you a Salt as white as Snow, and the same in weight with that which you mingled with the Niter at first; whence you may conclude, that *Tartar* is all Salt.

The Oyl of *Tartar* is made thus: Set this Salt in a very wet air, such as the air of a Celler, there it will melt, and dissolve into a white viscous Liquor, which we call Oyl of *Tartar* by solution, to distinguish it from the black stinking Oyl, which is drawn by distillation in a Retort and open fire: nevertheless, to speak properly, the name of Oyl is not due to either of them, because they are neither Sulphurous nor inflammable substances. If after you have made the Salt of *Tartar*, you are in haste to have the Oyl, you may presently compass your end by throwing eight ounces of common Water upon four ounces of this Salt of *Tartar*; for then it will all dissolve into Liquor.

Obs. 1. That you chuse good *Tartar*; for that

is all Salt: whereas the groffer sort of *Tartar* has much of feces, and terreſtreity in it, which would ſpoil this Operation, in which we pretend to diſſolve all the Salt into Water.

Obſ. 2. That your Niter be well deſteſted of all its fixt Salt, becauſe we deſire here a pure Salt of *Tartar*, without the mixtion of any other: therefore your Niter muſt be entirely volatil, and exhale all in the flagration.

Obſ. 3. That they both be well powder'd, and mingled together, that ſo the Niter penetrating the *Tartar*, do thoroughly calcine it; and it is for this reaſon that we uſe an equal quantity of Niter. By this method the *Tartar* is far better and eaſier calcin'd than by the naked fire, without any Intermedium.

Obſ. 4. That we make uſe here of an earthen glazed Pan, without any fear that the Niter ſhould corrode the Lead of the Verniſh; becauſe its flame is not retained, but is at liberty to exhale. An unglazed or ſtone-Pan would be unfit for the Operation, becauſe it would preſently break by the Inflammation of the Niter.

The Virtues and Uſe of the Salt: 'Tis a great Aperitive, Deopilative, and Diuretick; the doſe is from one to two dragms, in ſome Broth, or any other appropriated Liquor. The *Tartar* Vitriolated, becauſe of the grateful acidity which it borroweth from the Vitriol, is much more pleaſant to take than this Salt. This Salt, in the quantity of half a ſcruple, will extract in a quarter of an hour the virtue and tincture of half an ounce of Senna, in a glaſs of cold water, and at the ſame time

time proves a good Corrective to the noisom smell and taste of the Senna, giving it also the virtue of penetrating into all the Veins.

The Oyl of *Tartar* is very scouring and drying; and is therefore excellent to rub all Scabs, Itch, and Tetters; as also to take away Spots, and Sunburns upon the Hands and Face. It is useful to precipitate the dissolutions of Metals, and Half-metals, or Marcasites. And pray, by the By, take notice, That all Acids, as Sea-water, distilled Vinegar, Oyl of Tartar, Spirit, and black Oyl of Sulphur; and Vitriol, Spirit of Niter, and *Aqua fortis*, serve to precipitate the dissolutions of Minerals: but that ordinary common Water, serves to precipitate the Distillations and Calcinations of Minerals; as also the Dissolutions of Vegetables made in Spirit of Wine, for the Reasons which hereafter we shall alledge.

Crystal Mineral, or Lapis Prunellæ.

TAKE a Pot of the same Earth that Crucibles are made of, of the bigness of a Chamber-pot, and like it in Figure, with a handle; set it upon two Bricks in a great Circulatory Fire of Suppression: before the Pot be heated, throw into it as much pure Salt-peter in powder, as will fill it up to the brim; the Salt-peter will melt; and as soon as it is melted, throw into it a spoon-

full of Brimstone in powder, which immediately will take fire, and be consumed: when the flame ceases, throw in as much more, and so do three or four times. This Brimstone does not communicate any virtue to the Niter, only serves to purifie it, by precipitating its *Faces* to the bottom of the Pot, till it become so transparent, that after these Projections and Flagrations, you may see the bottom of the Pot through the melted Niter. This done, pour a little of this melted Niter into a Brass-tinn'd-Kettle, and presently set your Pot upon the fire again, having taken away a good part of the Coals round about it: then stir your Kettle so, as to make the Niter spread it self all over the bottom of your Vessel; which done, set it in a bigger Vessel full of cold Water, that so you may hinder the Niter from burning, and adhering too strongly to the bottom of your Kettle: separate then at last this white Crust, which is as thin and as brittle as Glass, and as white as Alabaster, and is by some called *Crystal Mineral*.

After this, take more melted Niter out of your Pot, pour it into your Kettle, and do all things as before, continuing till there be nothing left in the Pot but the *Faces* of the Niter, which you may throw away. Then gather all these thin Crystals together, and put them into a Kettle of Water upon the Fire, there to dissolve by a gentle ebullition; and if all dissolve not, it is a sign there is not Water enough. When all is dissolved, take off your Kettle, and filter this Liquor presently, while it is warm, through a brown Paper,

over an earthen unglaz'd Cucurbite. Then set the said Cucurbite in a Sand-heat, there to evaporate, till there appear upon the Superficies a thin skin; then take it off, let it cool, the Niter will crySTALLIZE into Needles of a sexangular Figure, white, clear, and transparent, as any Rock-Crystal; but as brittle as Glass, and of a pleasant and grateful acidity. And then it is properly called *Crystal Mineral*, because of its resemblance with Crystal. Some call it *Lapis Prunelle*; and that is, because it is sharp and sowre, like your wild Prunes or Plums.

Obs. 1. That we make use of a Pot of the same Earth that the Crucibles are made of, and not of an ordinary earthen-glaz'd Pot; because the Niter being once melted, would also dissolve the ledging of the Pot; and being incorporated with it, would lose much of its whiteness.

Obs. 2. That we fill the Pot full up to the brim, that we may make at once a great quantity of *Crystal Mineral*; and because the Niter melted will take up but half the room it did before, being no ways subject to rise and run over.

Obs. 3. That you must beat to powder your Niter; for so, a greater quantity will be contained in the Pot, and also be easilier melted.

Obs. 4. That you must not stay till your Pot be warm, before you put in your Niter; because the Pot being very hot, and the flegm of the Niter coming to be dissolved first, would be broke infallibly. Therefore put in your Niter at first; and so by degrees, as your Pot warms, your Niter will be

be deflegmated: and yet observe, That if you throw a spoonful of Niter into a pot red-hot, it will not break, because there is too little flegm for so much heat.

Obs. 5. That the Niter being hot enough, melts and is deflegmated; it melts by the means of its flegm; for it is the flegm that puts all Salts into fusion. And whensoever Salts are entirely calcined or deflegmated, they cannot be melted, except they be wet anew by some washings, and then they grow whiter.

Obs. 6. That if while the Niter is deflegmatizing, there chance to fall into it any small live Coal, then it will all be in a flame, till the Coal be consumed; and, to extinguish this flame, there is no way but to take out the said Coal, and to cover the pot.

Obs. 7. That if after the melting of your Niter, and the purifying of it by the different injections of Brimstone, you do not take off your pot, or take away some Coals, and the two first rounds of Bricks of your Furnace, that then your Niter will break the pot, though it were of Iron; and then the fire will inflame your Niter: which inflamed, will all exhale, and vanish away. The reason why the pot will be broken, is, because that then the Spirits of the Niter, being strongly heated, fly out of their body, and so corrode and break the pot.

Obs. 8. That the Niter does not take fire in the pot; because, that though a spoonful of Niter cast into a pot red-hot, will presently be in a flame, and vanish all away in smoke; yet a great quantity

quantity of Niter, even after its deflegmations, cannot be set a-fire, but by a red-hot Coal, unless you use a fire of Suppression, and so penetrate the pot, as to make it fire the Niter. And that cannot be done, because in such an Operation, an Earthen or Iron Pot or Crucible would break, and a Glass one would melt down.

Obs. 9. That the Niter, being melted, is not afterwards coagulated into a lump upon the fire, as Vitriol and Alum use to do; because they are gross terrestrious Salts, which Niter is not.

Obs. 10. That you must take well purified Niter, that so there be less of fix'd Salt in it: for, the fix'd Salt is easily dissolved into Water; and therefore your Niter being clear of it, will make your Crystals whiter and drier; if you use ordinary unrefin'd Niter, your Crystals will be apt to dissolve into Water.

Obs. 11. That the Brimstone takes fire in the melted Niter, and yet inflames not the Niter; because the oily substance of the Brimstone is dryer than the Niter, and because that the Niter can scarce ever be well deflegmated: for its Spirits, by reason of their great thinness, are subject to evaporate, and be gone with the flegm; as also, because no Vessel can long contain melted Niter, without breaking or melting.

Obs. 12. That the Brimstone purifies the Niter, because that the grosser part of the Brimstone, which has not been a-fire, mingling its self with the melted Niter, hurries along with it to the bottom all the *Feces* of the Niter.

Obs. 13. That *Crystal Mineral* is nothing but a well-

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well-purified Niter, that is well devested, 1. Of its Flegm : 2. Of its fix'd Salt : 3. Of its black *Fæces*, which it had contracted in those Vessels in which Niter is grossly prepared at first ; and so you see, unless you filtrate it, and then crySTALLIZE it, it is not sufficiently purified. When once it has been crySTALLIZED, then you may dissolve it again, and reduce it into a white Crust, which is called *Lapis Prunelle*. Now the *Cryстал Mineral* loses its flegm, by the melting of the Niter it is devested of ; its Smoot by the flagrations of the Brimstone, and by the filtration ; and it loses its fix'd Salt by the crySTALLIZATION.

The Use and Virtues : It cools very much, resists Corruption, and is Diuretick : It may be taken inwards, from half a scruple to a drachm ; and in a Clyster, from two drachms to half an ounce.

The Niter sulphurated, or the nitrous Salt of Sulphur.

TAKE four ounces of Flowers of Brimstone, and eight ounces of very fine purified Niter, reduce them into a very fine Powder separately, and then mingle them together.

Then pour into a great stone-Pan, a pint of Spirit of Urine, (drawn from fresh Urine, in a Glass-Alimbeck, and Sand-fire ;) in the middle of this Pan set a little stone-Pot, upon which set also a little Cup of the same Earth.

Then

Then begin to make the flagrations of the said Brimstone and Niter together ; and for this effect, put a spoonful of these two powders mingled together into the little Cup , then put into them a red-hot Iron, your matter will be immediately in a flame ; therefore cover your Pan with a Glass-Bell, whereby you may receive the red Vapours of the flaming matter. These Vapours will dissolve into three different Substances, viz. into Spirits of Niter, and Spirits of Sulphur, which fall together, and are incorporated with the Spirit of Urine in the bottom of the Pan ; and into nitrous flowers of Brimstone, which will be found sticking, partly to the sides of the Bell, and partly to the sides of the Pan ; and part of them will be spread in form of a *Pellicula*, or little skin, upon the superficies of the Spirit of Urine.

Take notice, That in this first flagration your Cup breaks infallibly, because it is not lined or fenced with any thing that can hinder the Niter from exercising its activity upon it. In a quarter of an hour, or thereabouts, the Vapours will be passed, and dissolved into the three Substances I have spoken of ; which done, break that little reddish skin upon the superficies of the Spirit of Urine ; to the end, that in the following flagrations, the Spirit of Urine may be impregnated with the acid Spirits of the Sulphur and Niter, which could not be, if that skin remained entire : then take away your broken Cup, in which you will find a whitish Crust left. After the first flagration, powder this, and put it into a new stone Cup, and it will keep it from breaking, as the first

first did. Then put another Spoonful of water into this Cup, fire it, and in a word, observe all the circumstances of the Operation already described, continuing it till all your Sulphur and Niter be consumed.

This done, take the calcined *Fæces* of Niter and Brimstone, which remain in the bottom of your Cup, and reduce them into a fine powder in an Iron Mortar: then mingle them, with all that is contained in your Earthen Pan, taking care to scrape off from the sides, into the Pan, all those Flowers that stick either to the Bell or Pan: Let this stand, and infuse the space of twelve hours; to the end, that the acid of the Niter and Sulphur, may entirely dissolve all the said *Fæces* and Flowers: filtrate this Dissolution through a brown Paper, over a glass Pan or Dish, and there will remain in the Paper some grey *Fæces* of the Flowers of Sulphur, which you may throw away.

Then begin your second Operation, that is, the deflegmation or evaporation of your Dissolution: To this purpose, put your Dissolution into a Matrafs, which must not be luted; because towards the end of the Operation, you are to see what passes in the Vessel: Your Matrafs must be short-necked, to the end the evaporation may be quicker; and it must not be above three quarters full, lest the matter should boil and run over, by breaking the Glass. Set your Matrafs upon a Round, in a small Circulatory Fire, hindring all sorts of Coals, either kindled or not, from coming near your Glass, for fear of breaking it. Continue a
good

good equal Fire, till you perceive, after a long boiling, a kind of white scum upon your matter; then lessen the Fire, and let your matter evaporate gently, till it be of a clear milky colour, and cease to boil, and make a noise.

Then augment the heat, that so in a small time you may evaporate the nitrous red Spirits still remaining: then, if with this augmentation of heat your matter does not boil, take it off from the fire, and pour it very hot into a stone-Pan, stirring and turning your Pan so as to make your liquor congeal, and spread it self all over equally, in the form of a Crust, as white as Alabaſter, but as brittle as Glaſs.

This second Operation, thus performed, you must begin a third, which is to mould this Salt into the Figure of Glaſs-Vials. This third Operation does indeed add nothing to the virtue of the remedy, but is only an ingenious beautifying of it, which is thus performed.

Fill little Glaſs-Vials half full with these white Crusts, place a Vial upon the ground, and surround it with live Coals, the Salt will presently melt: when it is melted, take away your Vial, and shake it, that the Salt may stick to the sides of it, and so take the shape of the Glaſs; then wet your Vial with cold Water, and it will break into a thousand pieces, which will nevertheless cleave to the Salt. These you must loosen with the point of a knife, and when you have taken away all the bits of Glaſs, there will remain a Vial of Salt, as white as Alabaſter, and which may be so preserved till you need it.

Obſ. I.

Obs. 1. That to make the Salt of Brimstone, you must calcine the Brimstone, and that nothing can calcine it so well as Niter, which, by firing the Brimstone, raises its volatile part, or Spirits, and leaves in the Cup the Calx of Brimstone, containing but few *Fæces*, and a great deal of fixed Salt: and the Niter being pure, burns all away, and remains not in the said Calx; but, because here Niter is the Agent, therefore we use here as much again of it as of Sulphur, which is the Patient. The reddish Flowers of Brimstone are also calcined by the said Niter.

Obs. 2. That we use here Spirit of Urine, as well because that if there were no Liquor, the acid Spirits of Niter and Brimstone would be lost in the pores of the earthen Pan, as because that the said Spirit of Urine is a powerful Diuretick, and does therefore augment the virtue of our Remedy.

Obs. 3. That the hardest thing in this Operation, is to deflegmate the dissolution of Brimstone in the Spirit of Sulphur, and there is a great deal of danger that the Matraass will break towards the end of your Operation, when the matter rises, and boils high; therefore be diligent, moderate your heat, Experience makes a good Artist.

Obs. 4. That after you have happily evaporated your Dissolution, that you may conclude your process, and chuse whether you will mould your Salt into the Figure of Glass-Vials, or no: but pour out your Dissolution into an earthen Dish, and so keep it.

Obs. 5.

Obs. 5. That this nitrous Salt of Brimstone, is nothing but the Flowers of Brimstone, calcined by the Salt of Niter, then impregnated with the Spirits of Brimstone and Niter, and at last coagulated into a white Salt. If after the evaporation of the Spirit of Niter, which was incorporated with this Salt, you take of it, and *Sal Armoniac*, equal parts, and sublime them together, you will have a lovely sublim'd Salt, white, and so strong, that it will melt in Paper, and break a Box, if you put it into it.

Its Use and Vertues: 'Tis a powerful cooler, and Diuretick, it purifies the Blood, resists Corruption, is most excellent in Feavers, both continual, and intermittent; it drives the Gravel of the Kidneys, and cures the Running of the Reins; the Dose is, from ten to thirty Grains, in Wine, Broth, Syrop, Ptisane, Distilled Water, or Decoction, answerable to the Indication, and sometimes in a Purgative Powder, or Bolus.

Dulcified Sublimate.

TAKE of good Corrosive Sublimate of Venice, as much as you please, eight ounces if you will; powder it to a fine Powder, in a white earthen Dish, pretty deep, and very even, with a glass or earthen Pestle, and be careful to stop your Nose with a Handkerchief, tyed behind your Head, for fear the vapours of the

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Sublimate

Sublimate, should make your Head ake, or cause some worse effect. Then put to it the same weight of Quicksilver, and by trituration, or beating, incorporate them together: when they are half incorporated, add to them a spoonful of distilled Vinegar, or rather just as much as is necessary to reduce your Mass into a wet powder, and not into a paste; if you put too much Vinegar, you will have the trouble afterwards of evaporating it by the fire side, and then all the purgative vertue of the Mercury will go near to fly away, with the superfluous humidity of the distilled Vinegar. Put this powder into a small Matraass, long and straight-necked, and unluted, that you may see to the bottom; let a good part of the Matraass be empty, that there may be room for the sublimation, and that it may be performed in a shorter time with a small heat; pose your Matraass upon a Round, in the small circular Fire, and presently you will perceive some humid vapours, which rise from the Vinegar: and when they cease, then 'tis a sign that all the Vinegar is evaporated: then stop your Matraass with a Paper-stopple, the better to keep in the Spirits of the Mercury, and the Salts of the Sublimate Corrosive: continue your Fire equally, till all the matter be raised, and sublimed from the bottom of the Vessel; then your first Sublimation is perfected: therefore take off your Matraass, let it cool, and then break it below the Sublimate; take out the said Sublimate, which will be all in a lump, like a Mushrome, and of a Pearl-colour; separating the Quicksilver,

if

If any, which you shall find swimming on the top, and which has not been well incorporated with the rest; if there be any spot of blackness about it, you must also scrape it with a Knife gently; and above all, you must take out by inclination, that is, by pouring the Quicksilver that will be got, as high as the orifice of the Matrafs; as also, scrape away a kind of greyish powder, which will be in good quantity in the neck of your Matrafs: set aside this scraping, and this powder, to use it in those Unguents, in which Mercury is required: because, this black scraping would in a second Sublimation, stain the whiteness of your Sublimate; and the greyish powder, would communicate a venomous quality to the remedy, because in it are enclosed the sulphureous Volatil, yellow Salts, as well of the Mercury, as of the Corrosive Sublimate; and it is in these Volatil Salts, that consists all the malignity of the Sublimate.

This done, reduce your Pearl-colour Sublimate into powder, in a stone or marble Morter, and put it into a great Matrafs, luted from the bottom to half the belly; so that there be five parts left empty, for the Sublimate to stick to; set it in the same Furnace, encreasing the heat by little and little, and taking care to keep off from the Matrafs all flaming Coals, lest they should break the Glass: continue this heat, till, when you take off your glass, and shake it, you perceive that little or nothing falls to the bottom. And take notice, That it is better that there should remain something, than that all should be sublim'd;

lim'd; else your Sublimate being over-heated, would contract a yellowness. Thus your second Operation is ended, take off your Matrafs, let it cool, and then break it below the Sublimate (which now is call'd the *White Eagle*) it appears in form of a Crown, towards the middle of the Matrafs. Take out your Sublimate, and separate it carefully from all its *Fæces*, which are a red Earth, proceeding from the Vitriol, and which sticks to the bottom of the Sublimate, and also a grey powder, coming from the volatil, and venomous Salts of the Mercury, and the Sublimate Corrosive; it sticks to the orifice and neck of the Matrafs. Use them both in Unguents, as it has been said. if you chuse not rather to revive all the Mercury that is in them, and make it quick again, for this same, or some other Operation. Keep this Sublimate in a glass Vial of a large orifice, and put it in, in pretty big morsels; stop it well with a Cork, and a piece of oyl'd Bladder over it, for fear it lose at last its purgative Vertue, by the evaporation of its best volatil, white mercurial Salt.

It is not good to sublime it a third time, lest it lose all its purgative Vertue; nay, the more you would sublime it now, the blacker it would grow: so that, after five or six sublimations, it would turn in the bottom of the Glass into a black lump, without possibility of being sublimed any more.

Obs. 1. That the Corrosive Sublimate ought to be made with Quicksilver, Common Salt, Vitriol, and Saltpeter: they make it rarely well at
Venice,

Venice, from whence it is brought to us, and sold three times cheaper than we can afford to make it. The *Hollanders* send good quantities of it hither, but it is ordinarily sophisticated, by the mixtion of white Arsenick, which is very heavy, and but ten pence a pound; whereas Mercury is worth four or five shillings a pound; besides, that Arsenick being incorporated with the Sublimate, is a strong poyson. But you will easily perceive this Cheat, if you pour a little Oyl of Tartar, made *per deliquium*, upon your Corrosive Sublimate: if it be good, and without mixtion of Arsenick, it will become as yellow as Gold; if there be Arsenick, it will grow as black as Ink. Besides, the best Sublimate of *Venice*, is made into little Grains, as big as Hemp-seed: but the Sublimate of *Holland*, is in great Splinters, as Mineral, Antimony, or Bismuth; and this is, because the Arsenick cannot be so well incorporated with the said Mercury, as common Salt, Niter, and Vitriol.

Obs. 2. That we take of Sublimate and Quick-silver equal parts; because, if there were less Corrosive Sublimate, it could not corrode, and calcine the Mercury: and if there were more, it would be hard to dulcifie the Mercury: 'Tis experience has taught us this proportion.

Obs. 3. That we make use of a Glass, or white Dish, or Pan, with a glass or marble Pestle, to powder the Corrosive Sublimate: for it would whiten and spoil a brass or iron Mortar: and because in an earthen-glaz'd dish it would be black'd by the Lead of the Dish, and in an un-glaz'd one,

there would much of it be lost in the little pores of the Earth: but all these inconveniences are prevented by making use of a Marble Glass, or White-ware Dish, which indeed is but the dreggs of Glass, refined and crysallized.

Obs. 4. That we use distilled Vinegar to incorporate the Quicksilver, with the Corrosive Sublimate; because, the Vinegar, having a Salt, helps the corrosion of the Mercury; and therefore furthers more their intimate mixtion, than a Liquor which had not such a Salt would do; but undistilled Vinegar, and particularly of Red-wine, is not good, because it would alter the whiteness of this Remedy. The Spirit of Vitriol is worse, for it would make it black: spittle would do well enough, but it is dangerous to spit upon the Sublimate, lest in spitting, some of it should get into the mouth.

Obs. 5. That in the first Sublimation, we give but a gentle circulary Fire, and do thereby elevate the Sublimate, but a little above the bottom of the Matraass; because, we do not pretend at this time to any thing, but only to calcine, and incorporate the Mercury with the Sublimate. But in the second Sublimation we give a greater Fire, and raise the Sublimate to the middle of the Matraass; because then we desire to purifie exactly our Sublimate from its *Fæces*, and by evaporating the malignant venomous volatil Salts, have a fair crysallized Sublimate.

Obs. 6. That if in the second Sublimation, when all your powder is sublim'd, you do not take your Matraass off from the Fire, it will grow yellow,

yellow, and blackish; nay, the more you sublime it, the blacker it will grow; because the Mercury being devested of the purest part of its Salt, who have left behind a sulphureous smoot, begins to burn, change colour, and at last grow black.

Obs. 7. That the dulcified Sublimate is but crude Mercury; incorporated with, and calcined by Corrosive Sublimate, then devested of its own, and all the venomous Salts of the Corrosive Sublimate; but yet furnished with the mildest, and sweetest parts of them, and by them. The Vertue Purgative of this Remedy, is, as it were, whited, and sharpened. Now while the Mercury is a calcining, and purifying by these Salts, it rises more or less, according to the heat, by its own nature, which is Volatil, and by the means of the Niter, which is joyned with it. And this we call subliming; for the common Salt, and Vitriol, are hurried away, and carried up by the Mercury and Niter, and by their Nature, which is not Volatil: they keep the Mercury and Niter from rising so high, as to run out of the Matrafs.

Its Use and Vertues: It purges gently, from one scruple to a dram; and if you take it four days together, augmenting your Doze, by little and little, from a scruple to a dram, it fluxes. Its particular Use is, to dissolve all scirrous, and scorbutick Tumours, both interiour and exterior.

Turbith Mineral.

TAKE two ounces of Quick-silver, well purified, and three ounces of Spirit of Niter; put them into a Glass Retort luted to half the neck, leaving a gap to look through at; place it upon a Round, in a small circulary Furnace, keeping the neck of your Retort streight, and not leaning on one side, till your Mercury be dissolved in the Spirit of Niter, which you will easily perceive through the gap you left, when you luted your Glass. When your Mercury is quite dissolved, then, to go the shorter way to work, evaporate the Spirit of Niter, your Retort being in the same posture still: but if you mean to draw off the said Spirit of Niter, then set your Retort in a distilling posture, and fit to it a Recipient, continuing your fire in the same degree as before. When the exsiccation, or drying of your Mercury shall be thus performed, take off your Vessel, and let it cool; then pour into it an ounce of Oyl of Sulphur, upon the white matter which remains in the bottom, and then set it again upon the same fire, till all the Oyl of Sulphur be likewise evaporated; reiterate three or four times this cohobation, or rectification, with the same proportion of Oyl of Sulphur: to the end, that at last it may fire the Mercury. This done, break your vessel, and in the bottom you will find a white lump, which reduce to powder, and upon this powder pour warm water, which

which incontinent will become yellow : reiterate this dulcoration or sweetning, till at last your water come away as insipid as it was poured on ; then separate by inclination the water, which will not be tinged as the other was, and after dry your matter gently in a sand heat, and there will remain at last a powder as yellow as Gold : upon this, pour some spoonfuls of Spirit of Wine, and set it on fire, doing thus three or four times to sweeten your Mercury the more. It will be as yellow and as bright as Gold, and of no taste, and so fix, that being put into a Crucible, and melted in a Wine Furnace, it will still keep the consistence of a yellow powder, without losing but very little of its weight, which is a sign that it is well fixt.

Obs. 1. That your Mercury for this Operation, must be well purified, because the intention is to fix it, which could scarce be done, if it were impure, and mingled with Lead, besides, that being designed for a purgative in a very small Dose, it would scarce answer your intention: you will be able to judge if it be well purified or no, by putting some of it into a Stone-cup: for, if when you put a finger into it, it does not hang, and make a long thred, as a syrup would do, but is short, then it is good. If it be impure, you may purifie it by straining it through the Leather called Chamy; for, the Lead, if there be any, will remain in the leather; or else distill your Mercury in a Glass Retort luted, in a fire of suppression, and the Mercury will remain in the bottom of the Retort.

Obs.

Obs. 2. That we use Spirit of Niter, and not *Aqua fortis*, to dissolve the Mercury, because the said Spirit being less harmful, and corrosive than *Aqua fortis*, ought to be imployed in all preparations of Remedies that are to be taken inwardly: besides that, if we had employed *Aqua fortis*, then the Mercury must necessarily after its dissolution have become red, as it shall be taught in the Chapter of the Red Precipitate hereafter: and no other Spirit would be corrosive enough to dissolve the Mercury but Spirit of Niter.

Obs. 3. That we use a greater quantity of Spirit of Niter, than of Mercury, because experience teaches us, that the dissolvant must be in greater quantity to dissolve such a dose of Mercury.

Obs. 4. That the said dissolution requires no other than a small circulary fire: for, if the heat were greater, the Spirit would evaporate, and be gone, in stead of doing its work; and for the same reason, we keep the Retort with its neck upwards, that so, if the Spirit be raised, yet it may fall down again, and dissolve the Mercury.

Obs. 5. That if you draw off by distillation that said Spirit of Niter, it may be useful to you in frictions, for the Itch, the Scab, and such like diseases, having lost its force, which would have consumed proud flesh, excrescences, &c.

Obs. 6. That the Mercury, being dissolved, and calcin'd Philosophically by the Spirit of Niter, after the exsiccation and evaporation of the said Spirit, the Calx of the Mercury is
white

white, because the Niter being also white by nature, cannot with a small fire colour any body that is dissolved in it, but the *Aqua fortis*, makes the bodies grow red, because of the Vitriol which is in it.

Obs. 7. That upon the Calx of Mercury, we pour Spirit of Sulphur divers times, that so we may intirely fix the said Mercury, because the spirit of Sulphur is of it self fix, and farr from evaporating, when it is put in a Matraass upon the fire, it fixes part of it into a very pricking sharp Salt: and therefore, this Spirit has power to fix all Metals. The black Spirit of Vitriol, is not proper to fix, because it is of its nature volatil, and would evaporate all away, as for its salt at least; and there would remain nothing but a *Caput mortuum*: and observe, by the by, that Mercury passes here through two the noblest Operations of Chymistry; for first, it is dissolved by the Spirit of Niter, and then coagulated by the Spirit of Sulphur.

Obs. 8. That by pouring warm water upon this calx, it presently grows yellow, because the Oyl of Sulphur has communicated to it the Sulphureous yellow colour; and the water being actually warm, dissolves and extracts the Salts who were incorporated in the said Calx.

Obs. 9. That by burning Spirit of Wine over the said Mercury, you dulcifie and sweeten it, and make its purgative vertue gentler; because, the burning Spirit of Wine, penetrating the said Mercury, carries away with it, in the burning, all the Venemous volatil Salt that could be left.

Obs.

Obs. 10. That *Turbith Mineral* is nothing but Mercury dissolved, and calcin'd by the Spirit of Niter, then fixt by the Spirit of Sulphur, then devested of the salts of its dissolvants by reiterated lotions, and freed from its malignant Sulphur by the flagrations of the Spirit of Wine.

Its Use and Vertue: It purges strongly, and often provokes Vomit, from three to six grains; it cures the Pox without fluxing, because being fixt, it cannot rise to the mouth, as all other preparations of Mercury that have not been fixt do. It is nevertheless very violent, because it is not so fixt, but there yet remains a little un-fixt mercurial Salt, and Sulphur, who are sharpened by the Spirits of Niter and Brimstone: and indeed, if all of it were fixt, then nothing of it could be dissolved in the stomach, and so would produce no other effect, than as much Gold in powder; also, being not altogether Volatil, its Vertue is less harmful.

The White Precipitate.

TAKE of pure Mercury eight ounces, and of *Aqua fortis* sixteen, put them into an unluted long necked Matraass, and of such a size, as it be not half full, lest when the Mercury and *Aqua fortis* are in dissolution, there should be so great an ebullition, as to cause the matter to run over:

over: stir a little your Matrafs with your hands, to heat the *Aqua fortis*, then set your vessel on warm ashes, to help a little more your *Aqua fortis* in its action upon the Mercury: but have a care you give not a greater heat than is necessary for a gentle ebullition; for, if your *Aqua fortis* be over-heated, and opened, it will tinge (by the means of its Vitriol) your Mercury in a yellow colour: as soon as your Mercury is entirely dissolved, which may be done in half an hour, pour your dissolution into an earthen Stone Pan, or glass Bell (the glazed earth being unfit, because the *Aqua fortis* would dissolve the Vernish) then pour upon your matter cold sea-water, well filtrated, and impregnated with common Salt undecrepitated; you may use about a quart of this Water, till your dissolved Mercury be all precipitated to the bottom of your Vessel, in a white powder. And take notice, that if you had used common water, you would not have precipitated your Mercury, but turned your dissolution into a white Liquor, which would have discharged it self of a white sharp powder: because that common water, having no salt, cannot fight with the salts of the *Aqua fortis*; but if it be impregnated with a contrary salt, there arises a conflict, during which the Mercury scrapes, and falls to the bottom, leaving behind him a good part of his salts. This done, separate by Inclination your sea-water, and pour a great quantity of common water upon your matter, to take away the *Acrimony*, which the *Aqua fortis* by its Niter and Vitriol has communicated to the Mercury,

and

and continue this, till your water come off insipid. Then, having pour'd off your last water, filtrate the remainder in a brown, or rather white Paper, to preserve the colour; and dry your Precipitate in the shade: for, if you do it in the Sun, or by the Fire, it will lose much of its whiteness; when it is very dry, keep it in a close Vial, well stopped, and covered with an oyl'd Bladder.

Obs. 1. That though this Remedy be taken inwards, yet we use *Aqua fortis*, and not Spirit of Niter; because, *Aqua fortis* costs less, and is sooner made than Spirit of Niter; which undoubtedly, without this reason of sparing, would be much fitter for this Operation: yet, we think that the great Lotions that are made, do dulcifie it, as if it had been prepared with Spirit of Niter.

Obs. 2. That we take as much again of *Aqua fortis* as of Niter; as well, because the dissolvant must be stronger than the thing dissolv'd, as because that Experience teaches, that such a Dose of *Aqua fortis* is necessary to dissolve the Mercury entirely.

Obs. 3. That the Matrafs must be long necked, that the *Aqua fortis* rais'd by the heat, to the middle of the neck, may cool, be condensed, and fall down again; for, in this Operation, we pretend to nothing, but to dissolve and calcine Philosophically, and lightly, the Mercury, without penetrating its Body, and opening it by the Salts of the *Aqua fortis*, as we mean to do in the Red Precipitate: and thence it comes, that this Mercury, after its precipitation, retains its white colour, and the nature of Quicksilver.

Obs. 4.

Obs. 4. That if you pour hot Sea-water on your Dissolutions, then you will not be able to precipitate entirely your Mercury; because, that the salt Sea-water, being sharpened by an actual heat, would penetrate and dissolve a part of the said Mercury, instead of precipitating it.

Obs. 5. That to make Sea-water, you must not take decrepitated Salt; because, it would be to no end to take away the flegm, since you are to put it into Water; and as for purifying it, filtration will do that.

Obs. 6. That the White Precipitate, is nothing but Mercury opened, and calcined by the *Aqua fortis*, and retaining but very little of the Salts of the said *Aqua fortis*, the rest being carried away by the dulcorations.

Its Use and Vertue: It is the gentlest of all the Purgatives drawn from Mercury, though it be dissolved by *Aqua fortis*; because it has been sweetned by Lotions: It purges nevertheless more violently than the sweet Sublimate, and its Dose is less: For, to Children it is from three to six Grains, and for Aged persons, it is from six to fifteen: It cures the Pox taken interiorly; and being dissolved with Oyl, it may be exteriorly used by Frictions, to cure the Itch, &c. This Remedy fluxes as easily as the sweet Sublimate; because, the Mercury being unfix'd in these Preparations, has his wings left him, wherewith he presently flies upwards, instead of purging by Stools.

The Red Precipitate of Mercury.

Put four ounces of good Quicksilver, and six ounces of *Aqua fortis* into a Matrafs, luted from its bottom to half the belly : set your Matrafs on a Round, in a small circulary Fire ; give a gentle heat at first, lest you should cause too great an ebullition ; then encrease it, by little and little, till your *Aqua fortis* be evaporated ; and you will know if your *Aqua fortis* be evaporated, by laying upon the mouth of your Matrafs a piece of Brass, or any other Metal : for, if it be not wet, then it is a sign that all the humidity, proceeding from the *Aqua fortis*, is evaporated : then encrease the Fire, putting live Coals round about the Glas, as high as the Lute goes, and continue the Fire, till your Mercury rise upon the brim of the Matrafs, in form of a yellow Soot, and that a piece of yellow Metal set over this vapour, do grow white by rubbing of it ; and that is a sign that the Operation is ended : therefore take off your Glas with all speed, else your Mercury would all vanish away in this smoak. Your Matrafs being cold, must be broken a little above the matter, and you shall find in the bottom an Orange-colour lump, the same in weight as the crude Mercury you used at first : and this is it, which we call a *Red Precipitate*.

Obs. 1. That if perchance the middle of this lump were of a whitish colour, then that is a sign that the Operation is not perfect ; and therefore, you must

must reduce it to powder in an Iron Mortar, and reverberate it in a Crucible, with a Fire of Suppression, till it become right Orange-colour.

Obs. 2. That you must not give the Fire so long, till your lump be red; because, than your Mercury would lose all its corrosive Salts, and therefore would be disabled from consuming proud flesh, which is its principal Vertue.

Obs. 3. That we use here *Aqua fortis* to calcine Mercury, because the Remedy which we intend is a Topick exterior one, to corrode, and consume all superfluous fleshly Excrecences; and it is necessary, that it should be in greater quantity, than the Mercury, to dissolve it entirely. Moreover, calcin'd Mercury does not retain its natural whiteness; because, the Vitriol of the *Aqua fortis* communicates this tincture, and because that the Fire here, is much more violent, than that which is us'd in the preparation of the Remedy, call'd *Turbith Mineral*. The dissolvan being also much more over-heated, and penetrating by the help of the Fire, communicates a sulphureous colour.

Obs. 4. That the Precipitate is found to be equal in weight to the Mercury, that was dissolved; because, though in this Operation it have lost something of its volatil part, yet it hath impregnated it self with some of the Salts of the *Aqua fortis*, as much as to make up the weight; and these Salts it will keep, till it be reviv'd, and made Quicksilver again.

Obs. 5. That the Red Precipitate of Mercury

is a Mercury dissolv'd, and calcin'd by *Aqua fortis*, and then charg'd with the sharpest part of the Salts of the said *Aqua fortis*.

Its Use and Vertue : It is lightly caustick, and escharotick, or consumptive; and therefore eats away all proud flesh, and excrescences : and to mollifie it a little, it is mingled with some Unguent; as the *Basilicum*, &c. It is good to cleanse Ulcers; it is useful likewise in the preparation of the *Arcanum Corallinum*.

Arcanum Corallinum.

Put as much Red-Precipitate as you please into a glass Bell, pour upon it a good quantity of warm Water, not too hot, for fear of breaking your Vessel; and do this often, till at last your Water come away sweet and insipid; then having poured off your last Water, put your Precipitate into a little glass Cucurbite, and twice as much Spirit of Salt in weight, as there is Precipitate; set your Cucurbite in a Sand-fire, with its Head and glass Receiver fitted to it, to draw off by distillation the flegm of the Spirit of Salt; in the mean time, the volatil Salt of the common Salt, which composes the Spirit of Salt, will remain in the bottom, and be incorporated with the Precipitate of Mercury, and so fix it, as to make it able to endure a reverberatory Fire, without evaporation; on the top of this Mercury there is a white Crust, which is the grossest part of the Spirit

Spirit of Salt that is corporified. Pour upon all this, some cold Water (as soon as your vessel is cool) to the end you may dissolve this grosser Salt, and draw it off from the Mercury; reiterating thus your Lotions, till your Water come off insipid: then put your Mercury (which is of a dark yellow) into a Crucible, and reverberate it in a small reverberatory Furnace, till it become as red as Corral: and in this reverberation, the Salts of the common Salt, which were incorporated in the Mercury, do evaporate, and leave the Mercury in the same weight it had before its first Lotion: and nevertheless, the Mercury is fix'd by that little of these Salts which it enjoys. This done, put the said Mercury into a Dish of Earth glazed, and pour upon it good Spirit of Wine, two or three Fingers deep, which set on fire, till it be consumed, and so reiterate once more the said Flagrations, to the end that the purgative, and vomitive Vertues of the Mercury, be milder by the evaporation of the volatil, and venomous part of the said Mercury, and its Salts.

Obs. 1. That we wash the Red Precipitate with luke-warm Water, to the end, that all the sharp Salts that are in the said Precipitate, be dissolv'd the better; and by these reiterated Lotions, it becomes at last as sweet, as if it had been prepar'd with Spirit of Niter, in stead of *Aqua fortis*.

Obs. 2. That the Spirit of Salt, as well as the Spirit of Sulphur, has the vertue of fixing Mercury; because, the Mercury it self too is naturally fix'd; being therefore opened, and intimately penetrated

trated by the Spirit of Salt, the said Spirit communicates to it its fixative vertue, and is it self fixed in the Mercury. And observe, that the Spirit of Salt has un-dyed the Red Precipitate, and made it of a dark yellow; because the common Salt, being by its nature all white, and coming to mingle with the Orange-colour, must needs clear it, and give it this yellow.

Obs. 3. That the *Arcanum Corallinum*, is nothing but Mercury calcin'd and dissolv'd Philosophically by *Aqua fortis*, then fix'd by Spirit of Salt, and devested by washings, from the most malignant part of its Salts, and of the volatilest part of its substance, by reiterated flagrations of Spirit of Wine.

Its Use and Vertue : It purges, and sometimes procures a Vomit, gently opening, and unstopping at the same time the passages, and dissolving all the hardnesses of the schirrous parts : alone it cures the Pox, without fluxing, because it is fix'd : The Dose is, from three to six grains.

The Crocus Metallorum, or Liver of Antimony.

TAKE of Female Antimony one pound, and half a pound of common impure Niter; powder them, and mingle them together; in the mean time heat red-hot upon two Bricks, in a great Fire of Suppression, a large and capacious Crucible, or Camion : throw into this, with a
great

great Iron Ladle, a quantity of your matter, and cover presently your Crucible, keeping it covered, till all the smoak cease: continue this Projection, and Flagration, till all your matter be consumed. This done, encrease the Fire, and stir with a stick your matter continually, till it be all melted: then take it off from the Fire, and pour it into a Brass or Iron Mortar, hindring as much as you can the *Feces*, which swim upon the top, from going into the Mortar; this liquor will congeal into a lump, which, when it is cold, you may break into many pieces, as glistring, and shining as Steel, or as burn'd Liver: then, if you powder them, they will change into a Saffron-colour'd powder, not unlike a diseas'd bilious Liver: and thence it is call'd the *Saffron of Metals*. As for the *Feces*, remaining in the Crucible, you must throw them away as useles,

Obs. 1. That you must take Female Antimony, as being the worst, and you may know it, by its long bright white Needles; as also, because it is much more brittle, than either the Male or Mineral Antimony. The Male is better than the Female, and is known by its little blue, yellow, green Needles, diversified in colours like a Rainbow. The Mineral Antimony is worst of all, because, not having been melted, it has not lost any of its volatil substance, in which consists all its malignity. It is distinguished easily; for, it is full of the Rock out of which it is drawn. When you melt Mineral Antimony, the Male goes to the bottom. In this Operation of the *Crocus Metallorum*, Female Antimony is good enough; be-
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cause, the Remedy resulting from it is none of the best of Chymistry; you may use the Male if you will, but have a care you do not use the Mineral; because, being loaded with Earth and Rock, it would not melt with so small a quantity of Niter.

Obs. 2. That you must take common Niter, not purified, but such as comes from the first washing; because, it is good enough to put the Antimony in fusion; and because, its *Feces* being to be mingled with the *Feces* of the said Antimony in the melting, it would have been superfluous to have purified the Niter before-hand; yet, if you will be at the charge, purified Niter will do no harm, it will rather be better.

Obs. 3. That you must powder your Antimony, and Niter, and mingle them well together; that so, they may the easilier take fire.

Obs. 4. That you must not use a glaz'd Pot, or Crucible, lest the enflamed matter should corrode, and melt the Lead of the Pot.

Obs. 5. That you must not throw your matter into your Crucible, till it be red-hot, else your Niter would not take fire, and so would not be able to put your Antimony in fusion.

Obs. 6. That you must not throw all your matter at a time into the Crucible; for then, the fusion of your Antimony would not be well performed; because, the Niter by so great a flagration, would exhale, and be gone, before it had melted the Antimony.

Obs. 7. That after every Projection, you must cover your Crucible very close, to the end you may

may keep in the enflamed vapours of the Niter, who by their circulations, do the better contribute to the melting of the Antimony.

Obs. 8. That after all your matter is consumed, yet you must encrease the fire, because the Antimony is but half melted by the said flagrations: but, being already opened by the Niter, it soon melts, if the fire be encreased: and in the mean time, you stir it well, that so the Antimonial Liquor may go to the bottom, and be free from its *Faces*; and therefore, we use a stick, and not any thing of Iron, because the said Liquor would corrode the Iron, as we may perceive in the *Regulus* of *Mars*; where the Antimony dissolves, and eats the filings of Iron, that are added to it. Besides; you may freely put the said stick to the bottom of your Crucible, because you do not mean to hinder the *Faces* of the Antimony from going to the bottom; and therefore, both melting together, descend likewise together, and only the *Faces* of the Niter swim on the top of the melted Antimony.

Obs. 9. That the Liver of Antimony, or *Crocus Metallorum*, is nothing but Antimony opened, and melted by Niter, and not devided of its terrestreity, but full of its malignant purgative, and vomitive Sulphur: therefore, we have used but half the quantity of Niter, to a double proportion of Antimony, and we have let it stand no longer upon the Fire, than was necessary to melt it, with the fixt Salt of the Niter remaining in the Crucible.

Its Use and Vertues: We seldom or never use the

the Liver of Antimony, till we have made it *Crocus metallorum*, by pulverisation. It is a Moderate vomitive, betwixt violent and gentle, and purges too, at the same time. This powder serves ordinarily to make the *Vinum emeticum*, or emetick Wine, by putting one ounce of it to infuse in a quart of white Wine, Sack, Beer, Cider, &c. the Dosis of this drink, will be from one to two ounces, to take at the mouth; and from four to six ounces, in an emollient decoction, in a Clyster, without dissolving in it any thing else.

The Regule of Antimony.

TAKE three pound of male Antimony, one pound and a half of common Niter, one pound and a half of Tartar, and four ounces of Wood Coals; in the mean time, heat red hot a great Crucible, in a great circulary fire of suppression, then throw in your matter by parcels, with an Iron or wooden-ladle, and cover your Pot, or Crucible, at every time, till the smoak be past; then, when your Crucible is almost full, encrease your fire, and with a stick, stir your matter from time to time, that so the purest part of the Antimony, may go to the bottom; but, do not put your stick to the bottom of the pot, lest the Regule, which is in the bottom, should be mingled with its

its *Faces* that swim on the top ; continue doing thus, till all your matter be melted, which will be in half an hour or thereabouts. Then, if you have any of your first matter left, for which there was not room in the Crucible, you may make an end of it, and put it to this, observing the same circumstances : when all is melted, give a violent fire for a quarter of an hour ; to the end, that the most harmful part of the Antimony may exhale. After this, take off your Crucible, set it upon a hot brick, for a cold one would go near to break it, because of its humidity : your Crucible being cold, break it, with a hammer, and in the bottom you will find your Regulus congealed in a lump, of the proportion of the bottom of the pot, as white as silver, very smooth underneath, and sometimes starred above in its superficies : on the top of this Silvery lump are the grayish *Faces*, dry and spongiouse, and in good quantity, and marked also with the Star : but when the Star fails, the Regulus is as good, as if it had not fail'd ; for the Star is produced, but by a long fusion, which straightning it, does also diminish something of its purgative, and emetick vertues, by the too great evaporation of the flowers, and volatil Salt of the said Antimony.

Obs. 1. That you must preserve the *Faces* of your Regulus ; for out of it you must draw the Golden Diaphoretick Sulphur, as shall be said hereafter.

Obs. 2. That we use here the Male Antimony

mony as best, because here we aim at a more excellent remedy, than the *Crocus Metallorum*.

Obs. 3. That we use here common Niter unpurified, for the reason alleadged in the Chapter of the Liver of Antimony.

Obs. 4. That we here make use of Niter to open and set in fusion the body of Antimony, though we do also imploy the Tartar to hinder a too great ebullition of the said Antimony, because, the Niter being somewhat busie in calcining the Tartar, cannot employ all its force upon the Antimony; besides, the Tartar being not inflameable by its nature, hinders the Niter from causing this ebullition; and being withall a gentle Salt, it purities, cleanses, and whitens the Antimony. Then we use Wood-Coals in powder for the same end, and because also the Coals being spongiouse, are apt to draw to themselves, and retain the *Faces* of the Antimony. Now it is very necessary in this Operation, to prevent the ebullition, lest the Antimony should run over the pot, and be lost, we use also but one proportion of Niter to two of Antimony, for fear the flagration should be too quick, and we keep all the matter longer upon the fire than we do the *Crocus metallorum*, to give the Regulus time to separate from its *Faces*.

Obs. 5. That you must powder, and mingle together the said matters; that you must not make use of a glazed pot; that you must not put in your matter, till your pot be red hot: that you must not put it in all at a time, but by little and little; and that presently after every projection,

jection; you must cover the Pot with its cover; That you must stir your matter with a stick, for the reasons alledged in our observations upon the Liver of Antimony.

Obs. 6. That the Regulus of Antimony is nothing but an Antimony opened, and melted by the Niter, somewhat more intimately, than the Liver of Antimony; because of the addition that is made here of the Tartar and Charcoal; and also, by reason of the continuation of the fire, which devests it of its terrestreity, and of a good part of its venomous Sulphur, and flowers: but yet it is endowed with a great emetick, and purgative vertue. Therefore we have not used here much Niter; and though the fire has been more violent than in the Liver of Antimony, yet it has not been strong enough to banish all the vomitive and purgative vertue, as shall be done in the Diaphoretick Antimony.

The Vertues and Use: It is a milder vomative, and a gentler purgative, than the *Crocus metallorum*: and it is used in three different ways.

1. It may be powder'd and infus'd, and so make a *Vinum emeticum*, as has been said in the *Crocus metallorum*.
2. We make of it eternal Pills.
3. We make Cups of it, in which Wine infus'd, becomes purgative, and emetick.
4. It serves also to make the Diaphoretick, by calcining it with Niter, either in a fire of suppression, or in the Sun-beams by a burning-glass.

To make the everlasting Pills, you must have a Mould for leaden Bullets, of the bigness of an ordinary pill: lute, with our Lute, the lower parts

parts, and all the sides of your Mould, to the end that your melted liquor being thereby kept in, may be fitly and handsomly shaped into the form of Pills; then take as much as you please of your Regulus, and put it into an iron melting spoon, with a long handle: which set, upon a great fire of suppression, or in a wind Furnace: cover the said spoon with a dry Tyle, not a wet one, lest it should fly, then pour coals upon your spoon, thus covered, and give a melting fire, till your matter be red hot, and perfectly melted, and as shining and bright as quicksilver; then pour gently your matter into your mould, and when it is cold, take out your Pills, which stick all one to another; separate them; and with a knife even them so, as they may have no unequal parts, which might hurt the throat, esophagus the Maw, the Guts, or the Fundament.

One of these Pills may serve you for ever, taking it out of the close-stool; and then making it clean for another time: for one Pill of dragm has the same effect, as the ordinary dose of *Vinum emeticum*, and works as well, as if you took three or four of these Pills at a time.

As for the mould of the Cup, it must be of sand and can serve you but once: your Cup must be as thick as a Crown piece: you must make your addressees to those that cast Bells, to make you a mould: you may make one of Brass, but it will cost you too much, and yet will not do so well as one of sand.

The Regulus of Mars.

TAKE two pound of Male Antimony, one pound of Tartar, and as much of Common Niter, two ounces of Charcoal, and six ounces of filings of steel, or iron, powder all these, and mingle them well together, and operate in the same manner, as you did in making the Regulus of Antimony. The Operation done, will produce you thirteen ounces of Regulus, proceeding from Seven ounces of Antimony, and six of filings; whereby you may perceive, that the Antimony loses much of its smooty Sulphur, and its sulphureous malignant flowers.

Obs. 1. That we add here the filings, to the end we may fix the vomative quality of Antimony, but you must not put above three ounces to each pound of Antimony, lest it should be so fixt, as to lose its purgative vertue, and contract the nature of a metal.

Obs. 2. That we employ, not so much Charcoal in this Regulus of Mars, as in the precedent Regulus of Antimony, in recompense whereof we put the filings, which produce the same effect.

Obs. 3. That out of the *Fæces* of this Regulus, is also made the golden Diaphoretick Sulphur.

Obs. 4. That the Regulus of Mars, is nothing but Antimony perfectly opened by Niter, and divested of its venomous qualities by a long fusion, though not long enough, to evaporate,
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all its purgative Sulphur. Its Emetick vertue is fixt, by the Addition of Mars.

Its Use and Vertue: It purges gently by stool without provoking to vomit; if it be infused in white Wine, or if you make of it everlasting Pills, or Caps, in the same dosis and methods we have described in the Regulus of Antimony. Nay more, if you powder one pound of it, and tye it up loosely in a coorse linnen, and then let it infuse in a quart of the decoction of sudorifick Woods, and Roots, you may cure the Pox without fluxing by Mercurial remedies. There is also made with the Regulus of Antimony, and Niter calcin'd together, an excellent Diaphoretick Antimony; but observe, that that which is made, either with crude Antimony, or with the Regulus of Antimony, provokes vomiting, except it be very well washed; whereas that which is made with the Regulus of Mars, never incites to vomit.

The golden Diaphoretick Sulphur.

TAKE of the Faces of Regulus Antimony, or of the Regulus of Mars, and boil them a quarter of an hour in common water, in a Brass kettle, to make thereof a dark yellow *Lexivum*, which filtrate through a brown Paper. Gather together all your filtrations, and put them into a glass, or stone vessel, but not into a glazed earthen

then one; lest the Salts of your matter, should corrode the Lead, or Vernish, and so black your powder; then pour upon them two or three Spoonfuls of Vinegar, or Spirit of Niter, Vitriol, or Sulphur, or some other acid; the stronger it is, the higher will be the colour of your Precipitate; for, these acid Spirits do much more vivifie colours, than Vinegar does. You will see presently, that your *Fæces* will curdle, become yellowish, and stink; your Curd being settled, pour away the Liquor, which you may keep to wash your Bedsteds withal, to keep them clean from Punaifes: then upon your Curds, throw common Water; and you shall see them precipitate into a powder of a Saffron-colour. Pour away this first Water, and pour on some more, in great quantity, that you may at once sweeten your powder, and take away from it its ill smell, and its emetick vertue; then having poured away this last Water, filtrate the residue through a brown Paper, in which let it dry at leisure in the shade.

Obs. 1. That the *Fæces* of both these Reguluses, do contain a Sulphureous smoot of Antimony, and a fix'd Salt of Niter and Tartar: therefore common Water is easily impregnated therewith by ebullition.

Obs. 2. That the Acid, which you pour upon the said *Lexivium* filtrated, produces three different effects; of which the first is, To separate the sulphureous and saltish Smoot, from the common Water, and so it appears in Curds. The second is, To give a gross yellow colour to the Curds

Curds and Water. The third is, To make the said Curds and Water stink abominably. It produces the first effect; because, that the Antimonial Sulphur, dissolved by a saltish and lexivial dissolvant, remains incorporated with him, till you pour in a little of a salinous Precipitant; which being of a different nature to the dissolvant, it happens that these two Salts, thus mingled, begin to whet one another, and by their action, and re-action, cause an ebullition, evaporation, and dissipation of the sharpest part of the dissolvant. So that growing weak, he is forced to let go his hold, and suffer the body he had seized upon, to fall away to the bottom of the Vessel. The Acid produces the second effect; because all Acids do enliven, and enlighten colours; now the colour of Sulphur is yellow, from whence it comes, that this Antimonial Sulphur, which in its dissolution was of a dark yellow, in its precipitation, becomes now of a fine light yellow. Now all salinous Spirits, do vivifie colours, because, they are of a detergent nature, and do cleanse, and take away all the greasie, obscure smoot, which did darken the lustre of the natural colour, as linnen grows white and clean by bucking. The Acid produces the third effect; because Sulphur, when it is heated, is naturally stinking; now it is heated by the action of the Precipitant, and re-action of the Dissolvant: This may be observed in the hot waters of Mineral Baths, which stink extreamly of Sulphur; because a bituminous and a sulphureous spring, happening to joyn with a nitrous, and vitriolous spring,

do whet, and heat one another, and so produce the sulphureous smell.

Obs. 3. That if you pour a good quantity of common VVater upon these Curds, that presently they are precipitated into a yellow powder; because, the said VVater dissolves all the Salts that remained in the said Curds; so that then the Antimonial Sulphur, being free from all ties and bonds, precipitates it self into a powder of a much livelier colour, than that of the Curds: because, now the Sulphur has thrown off the Salts, and appears under its own natural colour of Sulphur.

Obs. 4. That the golden Diaphoretick Sulphur, is nothing but a fix'd Sulphur of Antimony, drawn from the *Faces* of Antimony, opened and melted by Niter: for, the volatil Sulphur of Antimony is so much the more venomous, as it is volatil; and that which is least volatil, is violently vomitive and purgative: but, this being fix'd, is only diaphoretick and opening: and for a proof that the said Diaphoretick Sulphur is but a fix'd Sulphur of Antimony, do but let the said *Faces* of the *Regulus* of Antimony lye two or three days upon the ground, and there will rise of it self, without any Artifice, a kind of a yellow Moss all over your *Faces*, which is nothing but the true Sulphur of Antimony purified.

Its Use and Vertue: It is a powerful Diuretick and Diaphoretick, it serves principally to provoke the Monthly Courses of Women, being taken in the weight of twenty or thirty Grains, either alone, or with Saffron, Sayin, and Sene,

of each ten or twelve Grains, infusing them twelve hours in White-wine, and so continuing for two or three days together; to the same end, may be received by a Tunnel, the vapour of the *Lexivium* of the said *Feces*, before their precipitation into Curds. And take notice here, that if the said Powder have not been carefully wash'd and sweetned, that it may chance to purge, and provoke vomit too.

*The Diaphoretick Antimony, or the
Diaphoretick Mineral.*

TAKE one pound of Male Antimony, or of the Regule of Antimony, or of the *Regulus* of Mars, and four pound of pure Salt-peter; powder them very fine, and searce your Antimony through a Silk Sieve; then mingle them together, to the end the Niter may well inflame the Antimony; in the mean time, set a Camion, or great Crucible upon a Round, in a great circulatory Fire; when your Crucible is red-hot, then with a wooden Ladle, throw in a Ladle full of your matter, cover your Pot to keep in the smoak; which being past, do as at first, and put in another Ladle full, so continuing, till you have consumed all your matter; then continue the Fire, taking off the cover from your Crucible, till there come out no more vapours, which will be in half an hours time; after which, take off your Crucible: for, if you did let it stand any longer, your matter would become a
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red Liquor, which being cold, would settle in a lump, like the Liver of Antimony, and would have the same Vertues, because the excessive heat would have opened its body a-fresh: then, take out your matter by Ladle-fulls, with a Tin Ladle, and throw it as hot as you can, into a great stone Pan, full of cold Water; and do not throw it in of a sudden, lest some of the matter should sparkle upon your hands and face; but dip in your Ladle by little and little; when you have done all your matter, then wash your hands, and with them stir and break the said matter, precipitated to the bottom, till the Water become as white as Milk, and your matter as small as you can make it. Separate by Inclination the said milky Water from its *Feces*, who are a fix'd Niter, undissolvable in Water, and which you may throw away: Let this milky Water stand three or four hours, to the end, that all your white powder may precipitate to the bottom; then separate by Inclination this Water, which will be good for the Itch; then pour on more Water, and do so, till it come away insipid. Having poured off the last Water, there will remain a kind of white Pap, which put into a Coffin of white Paper, over a glass or earthen Vesica, so all the Water will run into the Vesica, and there will remain a white lump, which you must dry leisurely in the shade, upon the bottom of a Sieve. Being very dry, and in little white brittle pieces, you may keep them so, or powder them, and put them into a glass Vial, well stopped. If you desire to reduce this Magistery into Trochisks, you may do thus. When

it is yet Pap, put it into a glass Tunnel, and stop the bottom of it with your finger, till your matter be settled; then let go your finger, and let your matter drop out, in drops, upon a Marble, and so it will be formed into Trochisks; dry them in the shade, and not in the Sun: for, the reverberation of its beams, would alter the white colour, which is the beauty of these Remedies: all Magisteries may be trochiskated in the same way, and then must be kept in a glass Vial well stop'd.

Obs. 1. That in this Composition, we make use of Male Antimony; rather than of the Female; because, being heavier, it is better; and for the same reason we use the *Regulus* of Antimony, and rather the *Regulus* of Mars, because it is already more purified of the venomous part of its volatil substance. Now in this Remedy we do pretend, that all that part of the Antimony which has been opened by the Niter, is absolutely devested of its purgative and emetick substance, that is, of all its volatil Salt, and Sulphur: therefore we ought not to use the Female Antimony, which has more of this volatil substance than the Male. But the *Regulus* of Antimony is better; because, as it is devested, as well of a considerable part of its volatil substance, as of its terrestreity, it is fitter to be purified, and entirely refin'd from all its malignant qualities: and yet the *Regulus* of Mars is best of all; because, in it the emetick Vertue is already fixed by Mars, incorporated with the Antimony. You must also take notice, That they that seek the Philosophers

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Stone

Stone in Antimony, prefer Mineral Antimony before all others, thinking, that because it has not been melted, it is impregnated with all its vertue; and therefore ought to be used also in this Operation: but without diving any further in this Well of *Democritus*, I will only say, That for the use of Physick, Mineral Antimony is the most malignant of all, and it is devested of these ill qualities, only by long and reiterated fusions and evaporations.

Obs. 2. That we use here very fine Niter, because we are not only to open, and melt the Antimony (for common Niter would do that) but also so to penetrate the Antimony, as to cause an evaporation of all its volatil, purgative, and emetick substance. Now common Niter cannot do this, because, having a terrestrious substance, and a fix'd Salt in itself, it would not be fit to maintain a long and penetrating fusion.

Obs. 3. That for the same reason we put three times as much Niter upon the said Dosis of Antimony, and for the same reason we keep the Antimony, and the Niter upon the Fire half an hour after their Flagration and Projection, till all the smoak be vanished, and with it, the emetick and purgative qualities, which the Niter had opened, and set loose in the Antimony: but, if after that, you continue your Fire, it will produce the same effect in the Antimony, that the Niter did; that is, it will discover, and bring forth a new emetick, and purgative vertue, as we see it is done in the *Vitrum Antimonii*, or glass of Antimony, and yet not be able to make it evaporate: for, that

belongs to Niter to do : and by this you will perceive, that one must be a good Artist, that prepares this Remedy well.

Obs. 4. That you must with all the care imaginable, wash, and edulcorate your Magisterie of Antimony, else in stead of being simply Diaphoretick, and opening, it would prove vomitive; because, that though the volatil part of your Niter has carried away with it all the volatil substance of the Antimony, that it had un-chain'd, and set at liberty, yet the fix'd Salt of the said Niter, remaining in the Antimony, retains some part of the emetick substance; therefore, it is necessary, by frequent Lotions, to dissolve the said fix'd Salt, and so extract it. And here again, you see the great pains and care that an Artist is at, in preparing of this Remedy, so excellent, and so much used.

Obs. 5. That the Diaphoretick Antimony, is nothing but an Antimony most intimately penetrated, and opened by Niter, and all its emetick and purgative vertues evaporated, and carried away with the said Niter, by a long and great Fire, and then afterwards edulcorated by washing and Lotions.

Its Use and Vertues : 'Tis a powerful Diaphoretick, and an excellent Diuretick, apperitive, and desopilative : it is used with good success against all Venereal Diseases; as old Gonorrhæa's, being mingled with some *Venice Turpentine*, that has been brought to the consistence of *Colophone*, as we shall teach in the Chapter of the Diuretick Pills. It is very good against the Small Pox, in the weight of a Five Shillings piece of Gold, in
Water

Water, or Syrup of Cinamon, taking it three days together, to make the small pox come out, and dry; against all opilations, and tumours of the Spleen, the Pancreas, and the Mesentery; incorporating it with the Salt of Tamaris, the *Mercurius dulcis*, the *Crocus martis apperitius*, and scummed Honey, as it is here frequently practised with good success.

The Black and Acid Oyl of Antimony.

TAke of Antimony, fine Niter, Brimstone, of each one pound, powder them and mingle them well together; then fire this mixtion, in the same way, and manner, and in the same Vessels that we taught to make the Spirit of Sulphur in. There will rise a vapour, as red as blood, and there will stick to the sides of the Bell, and of the Pan, and upon the surface of the water, a little skin of the same colour: all your Matter being consumed, take your red flowers and mingle them with your water, which is already impregnated, with the acid Spirit of these three Minerals. Put all this into a glass Matraass, unluted, and let it be but three quarters full. Pose your Matraass on a Round, in a small circulatory Furnace, continuing a gentle fire, till your flowers melt, and go to the bottom, and that there appears no Sulphur swimming

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swimming upon the Liquor, which will look thick, and of a red dark blackish colour : but take care, that the ebullition be not such, as to run over; or break your Matrafs. 'Tis in this case, that one must be a good Artist, and acquire by attention, reason, and experience, a way of Operating surely, and easily. This done, take off your Matrafs, and pour out your liquor very hot into a white earthen Pot. When it is cool, separate by inclination the black and acid Oyl, and you will find in the bottom of your Pot a congealed lump of yellow reddish Sulphur, keep the said Oyl in a Glass, well stop'd, and keep your Sulphur to serve you in the making of the Salt of Brimstone.

Obs. 1. That Niter is here used to open the body of Antimony, the Brimstone is employed to fix its emetick quality; and the Brimstone, if it were not joyned with Niter, would not be able to inflame the Antimony : for the Brimstone being stifled in these vessels, would presently go out, but the Niter once a-fire, though afterwards stifled, yet sets the other combustible bodies that are with it, a-fire also, till they be consumed.

Obs. 2. That the smoak and flowers of this Matter are red, because of the Sulphur of the Antimony, which is redder than ordinary Sulphur, and so communicates its redness to the ordinary Sulphur; it is not the Niter that gives this colour : for, we see that in the Diaphoretick Antimony, it whitens the Antimony.

Obs.

Obs. 3. That this Oyl of Antimony is of a blackish red, because of the yellow tincture of Sulphur, mingled with the black tincture of Antimony: and this Oyl is acid, because of the Spirits of Sulphur and Antimony, which both are acid: for, as for the Spirits of Niter, they are all evaporated with the water, in which they were, and the Spirits of Sulphur remain to fix those of Antimony.

Obs. 4. That the black and acid Oyl of Antimony, is but an acid Spirit of Antimony, fixt by the Spirit of Sulphur.

Its Use and Vertues: 'Tis a good diuretick, and desopilative; it purges gently without provoking vomit: the Dosis is, from three to six drops, in a Glass of a Laxative decoction, or in some broth.

The Butter of Antimony, of which is made the Mercurius vitæ, or the Emetick powder, or the powder of Algarot, and the Cinnaber of Antimony.

TAKE a good corrolive sublimate, and Male Antimony (or rather of the Regulus of Antimony) of each four ounces, powder them, then mingle them, and put them into a glass Retort, luted all over, except in one place towards the top,

top, and then you must leave a gap to look through: fill your Retort quite full, if you will; for there is no danger of the matters running out of the Retort in substance; and besides, a gentle fire will presently distill as much of it, as is desired. Pose your Retort upon a Round, in a small wheel fire, and fit to it a Glass Receiver, there will presently rise a white vapour, which being dissolved, will distill in form of a whitish Oyl, call'd the Oyl of Antimony, and which in the Receiver, congeals to a kind of Butter.

Take great care your fire be not too strong, lest your Mercury revived, should come into the Receiver, and the Cinnaber of Antimony likewise, for that would render your powder yellow, which ought to be white: give then a moderate heat, till by the gap left in your Retort, you perceive all your Matter to be melted into a lump, clear and transparent, like melted Silver; and then you may be sure, that the Oily substance is distilled, therefore take off your Retort. This done, warm your Recipient so melt the Butter within it, which pour out immediately into a small Glass Retort, unluted, and set it in the same Furnace, with the same degree of heat, fitting a Receiver, and so rectifie this oyl once, for to rectifie it twice, would be to diminish so much of its vertue, that in stead of seven grains for a Dose, you would be forc'd to give fourteen. But observe, That if in either of these distillations any reviv'd Mercury should be raised by too great a fire, and so come into

into the Receiver; then separate gently, by inclination, the Oyl that swims on the top.

This rectification being done, you must warm again your Receiver, so as to melt the Butter; and when it is melted, pour it presently into a Glass Bell, full of cold water; the water will become as white as Milk, stir it a little, and your Butter will precipitate to the bottom, in form of a white powder: as soon as you perceive that, separate by inclination this first water, which we call Pontick, that is, Sea-water, and is Mineral; for, you must not let this first water, lye long upon your Precipitate, lest this water should contract an aciditie, as great as that of Spirit of Vitriol, and so corrode, dissolve, and diminish a good part of your Precipitate. The Water of this first Lotion, being poured off, pour on presently as much again, and stir your Bell as you did before: then separate by inclination, and continue so doing, till your powder be edulcorated, and your water come away insipid: then filtrate the rest in white Paper, as has been said in the Chapter of the Diaphoretick Antimony. You shall have a very white powder, called the Emetick powder of Algarot; which keep in a glass, close stopped.

Towards the end of the first distillation, in your luted Retort; if you have a mind to have the Cinnaber of Antimony, give a violent fire of entire suppression, without any Receiver to your Retort; continue it, till your Retort be sunk and almost melted. This fire will drive the Mercury to the end, and middle of the neck

of

of your Retort, and when the Operation is done, it will be either revived into Quick-silver, or turned into a gray blackish powder; there will also be driven to the mouth of the Retort, an Antimonial substance, which at the end of the Operation, will appear in form of a crust, as thick as the back of a Knife, and which outwardly is of a grey colour; but being pared, is within red, and is called Cinnaber of Antimony. Now in the bottom of this luted Retort, you will find a congealed lump, which is the rest of your Antimony revived: For, in this Operation, there rises but a small portion of your Antimony, to mingle with the corrosive Mercury, and there rises a little more by the violence of the fire, to make this Cinnaber of Antimony; but the greatest part remains in the Retort revived. Now to see these three substances together, after this violent fire, you must take off your Retort, let it cool, then shake the neck to make the Quick-silver fall out, whether revived, or in a grey Powder; then break your Retort, to find in the neck the Cinnaber of Antimony, and in the bottom a lump of the said Antimony, melted and revived to its first nature. This done, weigh your Butter of Antimony, and your Mercury, as well that which is revived, as that which is in powder, and you shall see, that all this will weigh a little more than the Corrosive sublimate, which you have made use of in this Operation. Weigh likewise the said Cinnaber of Antimony, and the lump of Antimony revived, and you'll see, that all
this

this weighs a little less than the Antimony, which you have employed in this Operation; and that shews, that the said Emetick powder comes partly from the Mercury, and partly from the Antimony.

Obs. 1. That we use here corrosive, not dulcified Mercury; because, the dulcified having lost its corrosive Salts, would not be able to open the Antimony, and turn it into Oyl: and besides, there would not result out of it an Emetick, because Mercury does provoke vomit, but by its corrosive Salts.

Obs. 2. That we use here the best Antimony, nay the best *Regulus*, because, being well purified and separated from its Sulphur, and its most malignant salts, there is produced of it a more gentle Emetick; and therefore it is better and whiter with the *Regulus*, than with the Male Antimony; but then, you will have no Cinnaber by augmenting your fire, but only there will stick a Mercurial Chrystalline Salt to the sides of the Retort.

Obs. 3. That the Emetick powder of Algarot, is nothing but a good quantity of Mercury, made volatil by a less quantity of Antimony, by the means of the fire, and the volatil Salts that are in the corrosive sublimate, then destituted of the said Salts, and sweetned by Lotions.

The vertue and use of the powder, is known by its name, which speaks it to be a vomitive, and that it performs much more gently, than the *Grocus metallorum*; because, the Antimony we

we employ is purer, and in less quantity; and because, that the great washings have carried away the venomous Salts. Its Dose in persons grown up, is five Grains; you may give eight in some Conserve, or the yolk of an Egg, or in any Liquor appropriated.

The Use and Vertues of the Butter of Antimony.
 'Tis a powerful Corrosive, it eats away Warts, and burns pocky Cancers in a moment: but, if it be applyed to any nervous part, it causes an inflammation for four and twenty hours: it is excellent for the exfoliation of Bones, and for the Gangrene.

The Use and Vertues of the Pontick water. It is excellent for Ulcers, Itch, Soabs, the Gangrene; you may use it in stead of Spirit of Vitriol, by mingling three or four drops in a Julip, in putrid and burning Feavers.

The Use and Vertues of the Cinnaber of Antimony.
 It is a great Sodorifick in the Pox. The Dosis is from eight to fifteen Grains.

Bezoard Mineral.

TAKE as much as you will of Butter of Antimony, melt it gently before the Fire, then pour it into a glass Bell, or Cucurbite, set it in a Chimney, lest the vapours, which you must raise, should offend you. Pour upon it some Spirit of Niter, drop by drop, for else the ebullition would be such, and the red vapours so strong, that

that the matter would run out of the Vessels, and the vapours hurt your Brain. Continue this Injection, till the Mercury and Antimony, which are in form of Butter, be absolutely dissolved by the said Spirit; which you shall know, by pouring on some new Spirit of Niter: for, if there be no ebullition, nor smoaking, then the dissolution is performed; you must pour as much Spirit of Niter in weight, as you have used Butter of Antimony; your dissolution will appear all along of a yellow colour. As soon as it is done, pour upon it, all at once, a quart of Sea-water actually cold; this Precipitant will presently make all your Liquor of a milky colour, and will precipitate your Butter to the bottom, into a very white powder, if you let it stand ten or twelve hours, to the end your Magistery have more time to precipitate entirely: then separate by inclination your Sea-water, impregnated with the Spirit of Niter, which was the dissolvant, and pour on common Water, till it come away sweet and insipid; filter the rest through a white Paper, dry your powder, and keep it in a glass Vial well stopp'd.

Obs. 1. That, if instead of Sea-water, you had made use of common Water for your Precipitation, you would have turn'd your Dissolution into a white Liquor, but you would never have precipitated your powder; because, that though common Water does much weaken the dissolvant, yet it does not do it so much as Sea-water, which, because of its Salt, contrary to the Salt of Niter, does fight with the said Niter, and in the conflict,

conflict, causes the sharpest, and most active part of the Niter to evaporate; and so to forsake its hold, as to let the Butter of Antimony fall, and precipitate to the bottom, in form of a white powder.

Obs. 2. That, that which we call Sea-water, is made thus, Take four ounces of common Salt, boyl it to dissolution in a quart of Water, in a brass Kettle, then filtrate it through the brown Paper.

Obs. 3. That in the great ebullition and effumation, caused by the Spirit of Niter, all the emetick and purgative vertue, which was in the said butter of Antimony, is evaporated; and at last carried away by reiterated Lotions.

Obs. 4. That Bezoard Mineral is nothing else but a Magistery, or Precipitate, compounded of a good quantity of Mercury, and a small quantity of Antimony, both being calcin'd, and opened by the Salts of the corrosive Mercury, then de-vested of the said Salts, by the Spirit of Niter, so that there remains in this Magistery, no other but a Cordial Bezoardick, Sudorifick vertue.

Its Use and Vertue: 'Tis an excellent Sudorifick against the Pox, the Scurvy, all putrid and venomous Feavors. The Dose is, from eight to twelve Grains, in some Conserve; but observe, that if you mingle it with Conserve of Red Roses, it becomes immediately green, for the Reasons that we shall alledge hereafter.

The Calcination, or Calx of Lead.

TAke Lead, beat it into fine thin plates, and take also of powder'd Brimstone as much, lay them *stratum super stratum*, in a glaz'd Pot, which set upon two Bricks in the Furnace of a great wheel Fire, and half Suppression; there leave it, till the Brimstone (which of its self by the heat of the Pot, will take fire) be quite out, and have a care you do not let it stand longer, for fear of melting your Lead, and so reducing it to its first metallick consistence; therefore take off your Pot, and with an Iron *Spatula* stir your calcin'd matter, to hinder it from getting into a lump; then take it out, and powder it in a Morter, then searce it in a filken Sieve, till it be reduced to an impalpable powder.

Obs. 1. That we use brimstone to calcine Lead, because nothing but Brimstone will take Fire, all alone, and burn a good while; Niter would not take fire all alone with Lead, and indeed never is inflamable, but when he is joyned with some combustibile Body, as Tartar, Antimony, Charcoal, or Brimstone; and if we did use here Niter, with some of these Bodies, its flame would be too swift to calcine Lead.

Obs. 2 That we use a vernish'd Pot for this Calcination, because our Calx is of the same Nature with the Lead of the Pot; and therefore is not in danger of being spoyled: and besides, the vernish will not be corroded by the Sulphur, be-
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cause it is not a dissolvant powerful enough to corrode a glazing, so dried, and fastned: for, if the Lead which you will calcine, were not beaten into very thin plates, and Sulphur mingled with it, every where, it would hardly be calcin'd.

Obs. 3. That the Calx of Lead thus calcin'd, is nothing but Lead opened, and dissolved by the Spirit, and Salt of Sulphur; and the said Lead will remain in the nature, of a Calx, but as long as there will be some of the Spirit, and Salt of Sulphur incorporated with it: therefore, if you continue your Fire any time after the Calcination, you will evaporate this Spirit and Salt, and so your Lead, devested of them both, will return to its first metallick Nature.

Its Use and Vertues: It serves to dry, and cicatrize old Ulcers, when they are cleansed before, and almost fill'd with flesh, by mingling it with some Unguent, as the *Diapompholixa*, with Hogs grease, reducing it to the consistence of a Plaister. Out of it also is drawn the Salt of *Saturn*, instead of *Lytharge*, *Ceruse*, or *Minium*.

The sweet Chrystals of Saturn, the sweet Salt of Saturn, not Crystallized.

The Oyl of Saturn, the Magistery, or Precipitate of Saturn.

Put as much distill'd Vinegar, as you please, into a glazed earthen Pan, set it upon a tre-foot, making under a Fire of Coals, and dry Wood, till it begin to simmer, and boyl slightly; then put into it by little and little, as much as you please of Lytharge of Gold, or of Silver powder'd, stirring it continually with a wooden *Spatula*: after it has boyled a little, take off your Pan, and let your Vinegar which is impregnated with the Lytharge settle a while, then pour off the said Vinegar, while it is warm: this done, pour more Vinegar upon the Lytharge, left in the Pan, boyl it, stir it, separate it, and then put more, doing so till all the Lytharge be gone; then filtrate your Dissolutions, while they are warm, through a Coffin of brown Paper, over a glass Cucurbit, which set in a Sand-fire, up to the neck in the Sand, and evaporate all your Filtrations, till they become as red as Bloud, and are covered with a little skin, or *Pellicule*: then pour them out into little white Dishes, and there let them cool; when they are cold, you shall see that a

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Great part of the Liquor is congealed into Crystals, or white Christalline Needles, as sweet as Sugar to the taste, and as thin as the Needles of Male Antimony: then gently pour out of these same Dishes a red Oyl, with a Sugar of *Saturn*, left in the bottom un-crystallized: then take out your Crystals, and keep them in a glass Viol well stopp'd with Cork, else they will fall into a Calx; and in another Viol keep the said Oyl of *Saturn*, which is nothing but the tincture of *Saturn*, drawn by the Vinegar. If by chance, in evaporating your Dissolutions, you were gone beyond the *Pellicule*, so as your matter begins to look thick and glutinous, then there would be no crystallizing of it; and therefore, evaporate it to a driness, to make the Salt of *Saturn*, not crystallized, or make the Magisterie of *Saturn*. Which is made thus: Take the said red [glutinous Oyl of *Saturn*, or the Dissolution of *Saturn*, evaporated to the *Pellicule*, and pour on three or four ounces of either of them; three or four spoonfuls of Spirit of Sulphur, which presently will cause the Dissolution of *Saturn* to curdle into white Curds, which by little and little will precipitate to the bottom into a white powder. This done, pour on common water, to take away the acidity, both of the Vinegar and Spirit of Sulphur; but pour on Water but once, else all your powder would be spent in a second Water; because, this powder of *Saturn*, being half calcin'd, is made dissolvable in Water by that little Vinegar, which remains incorporated with it; separate by Inclination this first Water, and filtrate the rest through

through a Coffin of white Paper, or make Trochisks of it, through a glass Tunnel, as has been taught in the Chapter of the Diaphoretick Antimony.

Obs. 1. That you must take a glazed earthen Pan, not a Stone, or Glass one; because there is no fear the Vinegar should corrode the Lead of the Vernish: for having been baked in an Oven, it sticks so fast to the earth, that the Vinegar cannot corrode it, neither if it did, were it amiss, since it is here used but for Saturn; a stone one would be unfit, for it would fly, and break, and that happens to all vessels of this Ware, except to Retorts; for, there the fire circulating equally on all sides, hinders its breaking, which is not the like case in Pans: for, there the bottom only being heated, and the rest cold, they easily break, because of their great driness. For, they are made of one part of a stone powder'd, which is as dry, and as brittle as Glass, and of one part of lean earth, which is not unctuous at all; a Brass Basin would not be proper; for the distilled Vinegar would spend its force in extracting the Salt of the Verdigreece, which mingled with that of Saturn, would make it look green.

Ob. 2. That in this Operation we make use of Lytharge rather than of *Ceruse*, or *Minium*; because, the Lytharge, having passed the fire of Coppel, is a more Spongy open body; and therefore more penetrable by the distilled Vinegar, and so will yield a greater quantity of Salt and Ceruce, which has a closer body, be-

cause it has been opened only by distilled Vinegar, which extracts the Ceruse from the Lead, and for the *Minium*, though it be Ceruse, made red in a Reverberatory fire; yet its body is not so open, as the body of Lytharge; because, it is so re-united, that it is almost recondense into its *Metallick* nature.

Obs. 3. That before we put the Lytharge into the Vinegar, we make the said Vinegar boil a little; to the end, it may the easilier penetrate, and dissolve so much of the Saturn, as it can load it self withal, and we let the said Lytharge boyl but a little time; because, no more is required for the Vinegar to impregnate it self with Saturn; and if it should stand any longer on the fire, the evaporation would be begun, which ought not to be, till all your dissolutions are together.

Obs. 4. That we use here distilled Vinegar for a dissolvant; because, it is not necessary to have a more powerful corrosive to dissolve Lead, which is a soft penetrable Metal; yet, simple Vinegar would not be so fit, as the distilled; as well, because it is not so penetrating, as because it is not separated from its flegm: besides, if it were red, it might spoil the white colour of your Crystals, or Magisterie.

Obs. 5. That all your Lytharge is dissolved at last, by reiterated additions of Vinegar; because, that Lytharge is all Lead, and if there should remain any part of it un-dissolved, it would be, because you have not poured Vinegar enough on.

Obs. 6.

Obs. 6. That you must stir with a Wooden patule, this dissolution of Saturn, and not with an iron one; because, the iron would black it, whereas your design is to preserve the whiteness of the Salt, which you are to draw from it; and iron blacks, as well by its self, as by its Vitriol.

Obs. 7. That all your dissolutions being put together, you must evaporate them to the consumption of three parts, and till there appear a saltish skin, or *Pellicule* upon the surface of the Liquor; else they would not congeal into Crystals when cold. For, having too much flegm, that salt Spirit of the Vinegar, which hath dissolved Saturn, remains dissolved its self, in the flegm: but, when by a gentle ebullition, and evaporation of the said flegm, the Salt Spirit remains alone, then it Chrystallises easily in a cold place, since it begins to do it already in a hot one, as you see it does by its *Pellicule*.

Obs. 8 That we pour this dissolution, thus evaporated, into white ware dishes; because being warm, it would break a stone, or Glass one, and in an earthen glazed one, the Crystals, because of the glazing, would spoil their whiteness

Obs. 9. That these Crystals are in figure like to needles, and somewhat triangular. Some are small, and those are in the bottom; others are greater, and those are upon the brims, and have more of a triangular figure: they are white, because they are a Calx, or Philosophick calcina-

tion of Saturn, made by a diffolvant, which cannot alter their colour; and they are in taste a little acid, and very sweet, or sugarins, acid, because of the Vinegar: sweet, because that Lead, being the sweetest of all Metals, has likewise a very sweet Salt, and thus the Salt of Lead is amongst the Salts of Metals the same, that the Salt of the *Indian Canes* is almost the Salts of vegetables.

Obs. 10. That when you pour two or three spoonfuls of Spirit of Sulphur upon your dissolution, then this acid, being of a contrary nature to the acid of the Vinegar, fights with it, and weakens it so, as to make it lose its hold, and so your Lead presently curdles, and is precipitated into a white powder.

Obs. 11 That the Spirit of Sulphur is fitter for this precipitation, than any other acid, because it makes whiter, sweeter, and more pleasant, not only this, but all Magisteries. The Spirit of Vitriol blacks; the Oyl of Tarter has an unpleasant taste of Urin; the Spirit of Salt would be apt to fix with this Magistery; and the Spirit of Niter is too sharp.

Obs. 12: That the Crystals of *Saturn* are nothing but Lead, dissolved and calcin'd Philosophically in distilled Vinegar, then coagulated into Crystals, by the evaporation of the flegm, and part of the sharpest Spirits of the Vinegar, and so yet retaining a good part of the acid of the said Vinegar. And as for the Magistery, it is likewise Lead dissolved, and calcin'd by Vinegar, then evaporated, then precipitated into a white powder,
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by the Spirit of Sulphur, or some other acid, and at last, devested by lotions of the acid and sharp part of the Vinegar, and the said Spirit of Sulphur.

The Use and Virtue of the dissolution of *Saturn*, before its evaporation into Crystals, or into the Magistery, is to cool, and appease the pain, and hardness of Inflammations; take away redness of the face, and *Eresipilae's*; the affected part being washed with lint dip'd in it. This mixtion is of a milky colour; and therefore is called *Virgina's* milk. The Crystals and Magistery have the same vertue, to cool and appease the pain, take away redness, soften hardness caused by inflammation, and attenuate and resolve Tumours: for this purpose, you put five or six grains of them, and as much white Vitriol into a Glas of Rose water, and Plantin mingled, and then in it we dip a thin slice of raw Veal, and lay it upon your Eyes inflam'd, and full of pain, and redness. The same water may serve for the redness of the face, and *Erisipelas*, dipping in it Linnen, and so applying it to the part affected: as for the oyl of *Saturn*, it may be mingled with some of your cooling unguents, as the *Cerat* of *Gallen*, or the *unguentum rosatum*, or *Populeum*, to mollifie, soften, and take away the redness of all inflamed parts; and, if you have not this Oyl, you make use of the Salt of *Saturn* in its place, for the same end.

The Crocus Martis aperitivus.

TAke of filings of Steel, or Iron, two parts, and of powder'd Brimstone one, mingle them together, and put them into an unglazed Earthen Pot, set it upon two bricks in a Furnace of Reverberation and Suppression, there let it stand, till all the flame of your Brimstone be spent, and after that, give the fire continually for an hour, then take off your pot, break it while it is hot, and presently put the matter into an iron, or Brass Morter, and powder it while it is warm, then spread this powder (which then will be of a colour of Violets) upon a Marble, the air will change the colour to brown, then powder it again, and searce it very fine, and keep it in a glass well stop'd.

Obs. 1. That we use Brimstone, to open and calcine the body of Steel, or Iron; but, that we put half as much Brimstone, as Iron; because, we intend here but a slight calcination: and the more you put, the stronger will be the calcination, and your *Mars* will be the more aperitive, or opening; they are powder'd together, that they may the better penetrate one another.

Obs. 2. That this calcination ought not to be done in an earthen glaz'd Pot, lest by the violence of the fire, the Lead of the Vernish should melt, and mingle with your Steel, by the activity and flagration of your Brimstone.

Obs. 3.

Obs. 3. That you must powder your calcin'd *Mars*, while it is hot: for, when it is cold, it grows hard, and so would not be so easily reduced to powder. For, even *Mars* not calcin'd, being actually hot, is soft, and malleable; and therefore, if calcin'd it is more; but both, when cold, do fall to their natural hardness.

Obs. 4. That the filings of Steel, or Iron, from black that they were, do become purple by this half calcination, and pulverisation, being impregnated with this colour, by the Brimstone which naturally makes a blew flame; and at last this Purple colour being exposed to the air, becomes brownish, because the fine Sulphureous part evaporating, leaves your *Mars* to its natural colour.

Obs. 5. That this *Crocus Martis Aperitivus*, or opening Saffron of *Mars*, is nothing but the filings of Steel or iron, half calcin'd, and opened by the Brimstone. This name of Saffron does not fit it well, except you mean a burnt saffron; for this powder is not red as Saffron is.

Its Use and Vertues: It has the same Vertues as the aperitive Saffron of *Mars* following; and besides, it serves to make the second Saffron of *Mars*, and also to make the Christalised Salt of *Mars*, and the astringent Saffron of *Mars*.

Another.

Another Crocus Martis aperitivus.

TAKE the Saffron of *Mars*, prepared above, put it into a stone Dish or Pan, and pour upon it Spirit of Vitriol, or of Sulphur, to the height of two fingers above your matter, letting it imbibe and impregnate it self for three or four days, then put your matter (which will be in form of Paste) into a great Crucible, and fill it up to the brim, to the end, the heat may work more upon it; set this Crucible upon two Bricks, in a reverberatory Furnace, giving at First, and all along for the space of eight hours, the greatest Fire you can; then take off your Crucible, break it with a Hammer, take out your matter, and while it is hot, powder it in a Brass or Iron Morter; then let it cool in the Air, upon a Marble, and it will become red as Saffron, searce it, and keep it close, and well stopped.

Obs. 1 That the Spirit of Sulphur, or Vitriol, with which we wet the said Saffron of *Mars*, which is already aperitive, serves to open it more, and calcine it Philosophically, and that the great Fire does it more perfectly.

Obs. 2 That this second aperitive Saffron of *Mars*, is nothing but *Mars* opened by four Keys, viz. By filing and powdering, and then by three calcinations, of which, the first is done by the flagration of the Brimstone; the second, by the pouring on of the acid Spirit; and the third, by a Reverberatory Fire of eight hours. Now it becomes

comes opening, because its Salt is set at liberty by these Agents.

Its Use and Vertues: It is a powerful desolative; it serves against the yellow Jaundice, the Green Sickness, it provokes the Courses of Maids and Women, and it opens the Spleen, and Mesentery, taken from half a dragm to two, either in the yolk of an Egg, or in a little Conserve of Roses, or some proper Syrup.

The Infernal Stone.

Take a little Matrafs with a straight long neck, let the belly of it be luted half way, put into it two parts of *Aqua-fortis*, and one of Silver of the purest, cut or beaten into thin long Plates, so that they may go into the neck of the Matrafs, and be the easilier dissolved by the *Aqua-fortis*; fill but one third part of the belly of your Vessel, set it upon a Round, covered with Sand in the little Wheel-Fire Furnace, giving a small Fire to help the dissolution of the Silver, and to consume the Dissolvant, so as after a gentle boyling, your matter may dry, and change into a black scum, not unlike a Pumice Stone; then encrease your Fire, to melt this scum half petrified, and continue your Fire, till the boyling cease, and that there rise no more vapours; which will be a sign that your matter is in fusion: then without any delay, pour out your matter into little Brass, or Iron Moulds, prepared on purpose: for, if you
delay

delay the pouring of it out, or if you let it cool in the Matrafs, off from the Fire, your matter will be reduced to a white powder, which is the Calx of the Moon, that is, of Silver: and this will thus come to pass, by the almost total consumption of your *Aqua-fortis*; and therefore, it is necessary to retain some of it in the said calcined Silver; to the end, it may keep the consistence of a Stone: if to this Calx of silver, you give a violent Fire, and add to it half a spoonful of Borax, it will return to its first metallick Nature, and appear like Silver in hardness and consistence; because, that the great Fire, and the Borax together, carry away even the least drop of *Aqua-fortis* which did keep the said Silver in the nature and consistence of a Calx.

Obs. 1. That the Matrafs which we use here, must be but little, because we do not ordinarily prepare much of this at a time; then your Fire being small, the matter cannot run out, particularly, where you leave two thirds of your Vessel empty. The Matrafs must have a long strait neck, for the greater convenience in pouring out your matter into its Moulds. This Matrafs must also be of a strong Glass, such as comes from *Lorrain*; and besides, must be luted in its bottom half way, lest a naked Fire, drying up the matter, should break the Glass.

Obs. 2. That we use here a double quantity of *Aqua-fortis* to the Silver; not that it is necessary to double the Dose of the Agent, to dissolve the Patient; but, because we desire to make the greater quantity of this Infernal Stone, which will be

be softer and less black; for Silver may be certainly dissolved, with an equal Dose of *Aqua-fortis*: and in this case, the Stone would be harder and blacker, and in less quantity: It contains not so much Salt, is sooner consumed, and the *Aqua-fortis* has not had time to calcine the Silver throughly, from whence the Calx remains blacker, harder, and heavier; which you will easily perceive, if you take notice, that the same thing happens in the making of the ordinary Lime; for, there you shall see some stones, that have not been well calcin'd, look black, be hard, heavy, and crumble less, than the others that have been well calcin'd.

Obs. 3. That we may make this Infernal Stone of Niter, instead of *Aqua-fortis*, and then it will be whitish, and less caustick, and instead of blacking the Skin, and Teeth, which it touches, it will only make them look yellow; because, it is the Vitriol that blacks in the *Aqua-fortis*, and whets the corrosive virtue of Niter; and take notice here, that none of the other acids, and corrosives can corrode Silver, nor by consequence, serve in this Composition.

Obs. 4. That to make a good Infernal Stone either white, greyish, or black, you must use Coppel Silver; for, if you make it with Silver, where there is a mixtion of Copper, your Stone will be green, and soft, will easily melt of it self; from whence you may conclude, that there is no making of it with Lead, or Tin, which yet are softer than Brass; and as for Iron, it can never be dissolved, and brought into a potable Liquor, because

because of its great driness and terrestreity. And as for Gold, you may easily make of it an Infernal Stone, of the same vertue, by dissolving it in excellent *Aqua-fortis*, or in Spirit of Salt, whet by Salt decrepitated; but then, you would have your Labour for your pains, for Coppel-Gold, or Leaf-Gold, is too dear. And as for the Marcallites or half Metals, they are not fit for this Operation, because that their dissolution evaporated, and reduced to a Calx, cannot keep in consistence of a Stone, but remains in powder.

Obs. 5. That to give to the Infernal Stone, that firm compact consistence, which is necessary for it, to be of use, it is not enough to dry your dissolution, with a moderate heat, to the consistence a scum half petrified, but you must, when you are gone so far, encrease your fire, and melt the said scum, then in the same instant, pour out your matter: for, if you let it cool in the Matras, the rest of the *Aqua-fortis* would evaporate in the cooling, and so there not remaining enough to corporifie the said Calx, it would fall into a powder, which would be the Calx of the Moon.

Obs. 6. That to make little Moulds of Lattin, you must hold it a little time over the fire, then it will be maniable and flexible, and not apt to break, then cut off a piece, and roll it about a stick as thick as a quill, and as long as your finger, and so tye it close, remembring to turn up the bottom, so as nothing may go through: then daub it with our Lute, letting it dry; then when you will use it, take out the stick, and in its place pour your matter, which will be condensed into

into petrified Cylinders; which you will easily get out, by taking away the Lute, and cutting the thread that ties your Mould together.

Obs. 7. That the Infernal Stone; is nothing but a little Coppel-Silver, dissolv'd and calcin'd Philosophically by *Aqua-fortis*, then coagulated by the evaporation of the greatest part of the said Water; and at last petrified by the fusion of the said coagulated matter, which has retained enough of the *Aqua-fortis*, to be in the consistence of a Stone.

Its Use and Vertues: It is a gentle and pleasant Escarotick, it consumes by touching all Warts, proud Flesh, Cancers, Ulcers, and red Spots; if you wet with a little Water the said Warts and Spots. It appeases the pain of the Teeth, using it as has been said, upon the part of that Skin, and Cartilage; that makes the hollow of the Ear: the crumbs of this Stone powdered, and incorporated with a Suppurative, consume likewise ill Flesh, rotten in Ulcers. It serves likewise to dye the Beard black, if you put the weight of two or three grains of it into a spoonful of Water, distilled from the green shells of Walnuts; then with a pencil, or some such thing, pass it over your hair three or four times, observing to hold between it and your skin, a little Comb; for else this Water fails not to black the skin, wherever it touches; and that because of the Vitriol that is in the *Aqua-fortis*: and if sometimes the hair grow green, it is because there has been dissolved in the *Aqua-fortis* Silver, mingled with Copper, in stead of pure Coppel-Silver.

Cauteries.

Put a pound of Quick-lime into a stone Pan, pour upon it by Spoonfuls about four ounces of common cold Water, not all at once, but by little and little, that so you may gently, and without smoak, slack it, and so retain a good part of its volatile and fusible Salts, which will contribute very much to the fusion of the matter of your Cauteries; and so make them fitter to be moulded into any shape. And besides, it will make them more caustick; for, all volatile Salts are more caustick than fix'd ones. Your Lime being well slack'd, and in the consistence of paste, pour at once upon it as much Water as will reduce it to the consistence of thin Pap, and then put to it immediately two pound of good gravell'd Ashes heat red-hot before-hand, for an hour, in a reverberatory Furnace, and in an unglazed Pot: but, you must put them in by Spoonfuls, as hot as possibly you can, as we have already taught, in the making of the Diaphoretick Antimony. This done, pour upon this matter, about four quarts of Water, which is as much as is requisite to dissolve all these Salts, and so let it stand twelve hours, to the end your Water may be well impregnated; and thus you will have a *Lixivium*: which you must separate by Inclination from its *Faces*, into a copper Basin, which by reason of its Vedigreece, will whet your Cauteries more and more, and make them look blewish. Set this Basin
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on a gentle Fire, and evaporate your *Lixivium*, till it be dry, and have the consistence of a grey Salt. If then you desire to use them, as they are in a lump, and without shape, take off your Basin, and take out your Cauterics by pieces, and keep them in Glass Vials well stopp'd: if you will have them well shap'd, then when your *Lixivium* is dried to the consistence of a grey Salt, encrease your Fire, and melt the said Salt, and when it is melted into a blew Liquor, then with an Iron *Spatula* red-hot (else the Salts would presently congeal, and stick to it) take up as much as you please, and let your lump fall by drops, upon a cold Marble, there they will be shaped like half Beads; when they are cold, take them off with a knife, and keep them in glass Vials, well stopp'd with Cork, to keep the Air from them. Continue this, till you have shaped all your matter, and that the remaining become black, and dry, upon which, if you pour some of your *Lixivium*, which you must have preserv'd on purpose, it will dissolve, and be fit to be moulded as the rest. At last, if there remain, as there will, some black dry matter, you may wash your Basin clean, and throw that away.

Obs. 1. That Lime contains two Salts; one fix, and the other Volatile: the fix is dissolv'd in the Water which slacks the Lime; the volatile evaporates in the smoak, and boiling, with this distinction, That if you pour upon it at first all your Water, and so cause a huge ebullition, and smoking, then all the volatile Salt flies away; but if you slack it by little and little, pouring

only some spoonfuls at a time, then there being but a gentle ebullition, and gentle smoak, the volatil Salts are but weakned, and so do dissolve in the Water. Now when you make Lime-water, to serve to the making of the Phagedenick Water; there it is not necessary to slack your Lime so gently, because it suffices, if you retain the fix'd Salt, that so it may be able to dry and consume putrid Ulcers; but when you make the Lime-water to serve to the making of Cauteries, then you must strive to keep in the Volatil Salt; because it is the Volatil Salt, that makes the fix'd Salt, of both Lime and Ashes, to be fusible: and therefore, if you will shape your Cauteries, and make them more Caustick, you must retain the volatil Salt.

Obs. 2. That gravell'd Ashes are a Calx, proceeding from the Calcination of the Lees of Wine and old pieces of Casks, which ordinarily are of Oak, so that this Calx contains the Salt of the Lees of Wine, and the Ashes of the said Casks of Oak: the best sort, is that which is blue, and well dried; and you may easily perceive, that it is a Vegetable Salt, and indeed nothing but Tartar calcin'd, or a Salt of Tartar. Now this Salt is fusible, as it has been said: besides, we heat it red hot, and throw it into this Lime-pap, there to dissolve. Heretofore we made use of Ashes of common Wood, of Cabbage, and Bean-stalks, and we may use it still, but this does as well, and is to be had easily at *Paris*.

Obs. 3. That in this Operation, we use no of glazed Earth, lest the Salts of Lime

and Ashes should corrode the Lead, and so dull their point, and activity, to no purpose, which they are to preserve to cauterize therewith the places, they are applied to; nay, if you do but evaporate your Cauteries in a vernish'd Pan, they will lose much of their force.

Obs. 4. That these Cauteries are nothing, but a Salt composed of the fix, and volatil Salts of Quick-lime, and gravell'd Ashes; which having been dissolved in common water, have by evaporation been coagulated in a moderate heat, then having been melted by a greater heat, have been coagulated by cold upon a Marble.

Its Use and Vertues: The name shews its caustick escharotick vertues; this kind of Cautery produces its effect in a small time, and yet gently enough, it is always dry, if it be kept well stopp'd in a glass Vial; but, if it be too dry, it cannot dissolve upon the skin: therefore, while you prepare all things for its application, put it to soak in a spoonful of water.

The Magistery or Precipitate of Bismuth.

SEt a Cucurbit Glass, Bell, or Head, upon any thing within a Chimney, that so the infectious vapours may not poyson the room, and offend by their stench the Artist, and Spectators: put into your Vessel four ounces of Bismuth, well powdered in a Brass Mortar, pour upon it one or two spoonfuls of Spirit of Nitar, which presently will produce an ebullition, and a stinking in-

fectious smoak; when they are past, pour on again a like quantity of Spirit of Niter, which will cause the same effect; continue this till you have spent eight ounces of Spirit of Niter: if you pour on too much at a time, your ebullition will be so violent, that all your matter will run over your Vessel, and be lost, and the smoak will be so thick, that by its stinking red vapours, it will go near to do you some mischief. When you have thus spent all your Spirit of Niter; though after the last Projection, all your Bismuth be not dissolved, and devour'd by the said Spirit, nevertheless, separate by inclination, your dissolution, while it is warm, from that part of the Bismuth, which remains undissolv'd in the bottom of your Vessel, and you must pour this Dissolution into a precipitatory Vessel of Glass, or white-ware; and there it will be congealed into a thousand little transparent white Crystals.

In the mean time, pour by little and little, and at divers times, some new Spirit upon the Bismuth left in your vessel, to the end, you may dissolve all the pure and good Bismuth that is left in this lump; for, there will remain at last a few black *Feces*, which cannot be dissolved. Separate by inclination this second Dissolution in another Glass, or white-ware Vessel, and there let it Crystallize as the former: then take all your Crystals, and mingle them together in a Glass Bell, and there melt them with a gentle heat, and when they are melted, pour upon them a quart of Sea-water actually cold, which will precipitate them into a white Curd, which Curd, will

will by little and little dissolve into a white powder: then separate by inclination this first Water, pour on more, and so continue till your powder be entirely sweetned; nay, do it three or four times after that your water comes away insipid; for, if there did remain the least Acrimony in this powder, it would wrinkle the Face, which it ought to whiten: filtrate this powder through a white Paper, and let it dry upon the said Paper in the shade, taking care to cover it, lest the dust should come at it; and do not dry it by the Fires side, or in the Sun-beams; for then it would return to brown-blackish colour. When it is very dry, put it into a glass Vial, well stopp'd, and you have the true Magistery, or precipitate of of Bismuth.

Obs. That Bismuth is a kind of Marcassite of Silver; and that therefore it is almost as good as Silver, to make by its calcination a good *Fucus*, or Cosmetick: for, it is certain, that the Precipitate of Silver, made in the same way as this, does much excel the Precipitate of Bismuth.

Obs. 2. That to make the Dissolution of Bismuth in Spirit of Niter, you must take a Vessel very broad towards the top, and therefore a glass Bell is the fittest, to the end, that the venomous vapours, that rise out of the matter, may the sooner and the easilier be gone; therefore in a Matraass, these vapours being streightned, would re-impregnate themselves, and make your matter yellow, instead of white. Then your vessel must be Glass, or White-ware; for, in an earthen glaz'd Vessel, your powder would grow black,

because it would dissolve the Lead of the Vernith, and a stone, or unglazed one, be less fit, because the Spirit of Niter might lose, and insinuate it self in the pores of the said Earth.

Obs. 3. That though *Aqua-fortis* can dissolve Bismuth, yet we use it not; because, by its Vitriol the Calx of the Bismuth would be so blacked, as to be useless in the design of whitening the skin.

Obs. 4. That your dissolution being poured into a glass, or white ware vessel, does there congeal into a thousand little white Chrystals, transparent and saltish, because that the Spirit of Niter being loaden with the quantity of a Metallick body, Chrystallises as Metals use to do, after their dissolution. These Crystals are white, because that the Bismuth is as white as Silver, and they melt by a gentle fire, because they were congealed by cold.

Obs. 5. That Sea water does precipitate dissolved Bismuth in a white curd, and white powder, because that the Sea-salt which makes the Sea-water, being contrary to the Salt which makes the Spirit of Niter, attakes and fights with it, and so the Niter being weakned, because, that in this conflict its sharpest part evaporates away, lets go the Bismuth, which it had seized upon, and immediately the said Bismuth falls into a white curd and powder. 'Tis true, that the common water by moistening the Spirit of Niter, does much weaken it; but, if in this water there had not been some Sea-salt; the Calx of Bismuth would never have been well separated
from

from its dissoluant, neither would it have been precipitated to the bottom of the Vessel.

Obs. 6. That you must dry this Magistery in the shade by little and little, and not in haste, or by the fire side, or in the Sun-beams, lest it recover its brown dark colour; for the actual heat, either of the Fire, or the Sun, would revive in it a black burned Sulphur, which sticks to the surface of this remedy: from whence, Ladies that use it may learn, that they must by a double reason keep it in the shade, as well to conserve their own natural beauty, as the artificial beauty which they borrow from this Magistery.

Obs. 7. That the Precipitate or Magistery of Bismuth, is nothing but a Calx of Bismuth calcin'd Philosophically by the Spirit of Niter, and then precipitated by the contrariety of the Sea-water, and sweetned by reiterated Lotions.

Its Use and Vertues: It is in Physick an excellent desicative for Ulcers, as well as the Magistery of Saturn, and it is likewise a most excellent Cosmetick or Fucus, to make the face and hands white and fair, either by rubbing them with the powder alone, which insinuates its self into the pores of the skin, or else by applying a Pomatum made of one dragm of the said precipitate, and two dragms of Unguentum Pomatum, which you may prepare if you will, with one ounce of white Virgin Wax, and four ounces of Oyl of sweet Almonds, or Acorns, or of Beans, or of the four cold seeds.

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The Spirit, Oyl, and Extract of Guaiacum.

Take a great Stone Retort ; lute it every where up to half its neck, lest it should break towards the end of the Operation : fill it up to the neck with *Guaiacum*, cut either into pieces, or shavings ; place it upon the hollow part of the cover of an Earthen Pot, full of ashes, which must be set upon the two Iron Barrs that are in a small Reverberatory Furnace, lute and stop the gap of the Furnace which is above the neck of the Retort, till you have made it even with the top of the Furnace, then fit to the neck of your Retort, a great Glass Receiver, or an Earthen one, if you will, or a great Pitcher which is easilier made clean ; because you may put your hand into it even to the bottom ; lute the said Recipient to the Retort, cover the Furnace with its top, that is, an Earthen Pan turned the inside downwards, and with a hole in its middle, big enough to pass an Egg through, or else with two or three rounds of Bricks, as has been described in the great Reverberatory Furnace : then put some lighted Coals into your Furnace, and give your fire by degrees, adding to it after a little while three or four Faggot-sticks yet have a care you do not over-heat your Vessel, lest your Receiver break by the violence of the vapours which also may lose themselves through
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the luted conjunction of both the Vessels: the true mark of a fit heat will be, if you can endure to lay your hand a pretty while upon the Receiver, this distillation is to last eighteen or twenty hours without interruption; the Spirit, comes first alone, and in a Glass Receiver appears in the form of white vapours: then the Oyl, with the rest of the Spirits, comes forth in the same form also, and does dissolve into a brown blackish liquor, which goes to the bottom of the Receiver: for all Spirits, and all Oyls, do distil in forms of white vapours, except Spirit of Niter, and *Aqua-fortis* made with Niter, which therefore are called the flying Dragon, as well because of their redness, as of their malignity. The mark, that the distillation is ended, will be, if your Receiver be cold, though there be an excessive heat in the Furnace; for, that is a sign that there comes nothing more into the Receiver. When all is cool, then unlute the Receiver, by wetting the lute with a wet cloath, and pour out your Oyl and Spirit of Guaiac together, into a glass Tunnel, and by one of these two ways, separate the Spirit from the Oyl. First, take a glass Tunnel, which hold with one hand, and with a finger of the same hand stop its lower orifice, then pour in your Liquor; the Oyl will presently go to the bottom, the Spirit will swim above, and upon the surface of the Spirit will swim some black drops of Volatil Oyl of Guaiac: Then set a glass Vial under the neck of your Tunnel, and let go half your finger which stops the said orifice, and so the

the Oyl will pass into your Vial, and when you see that it is almost all passed, then stop the orifice again with your finger, and pour the flegm or Spirit into another Vial. Do thus by all the spirit, and Oyl, you have in your Receiver, but by this way you will never separate the Oyl from the flegm so well, but there will be some in it still. Therefore use this second method which will do it entirely and infallibly.

Take a Coffin of brown Paper, wet it with common water, or with Spirit of *Guaiacum*, if you have any, place it upon a Glass Tunnel, and pour into it the Oyl and the spirit together; the Spirit being watrish will pass, and filtrate through the said Coffin of Paper, and the Oyl will remain; which afterwards you may easily convey into another Vial, by breaking the bottom of your Paper Coffin with a little stick; if you do not wet thoroughly the said Coffin of Paper before you pour into it the Oyl and Spirit, the Oyl will stick to the Paper, and hinder the filtration of the flegm: If your Oyl do not come kindly out of your Receiver, because it may be it is cold, and so condensed; present your Receiver to the fire to dissolve; your Oyl will be black and stinking, as the Oyl of Jet, and your spirit will be of a brown colour. Out of one pound of *Guaiacum*, you'll draw about one ounce and a half of Oyl, and ten ounces of Spirit: and there will remain about four ounces of Coals in your Retort: you may kindle this Coal, and burn it to ashes, and of these ashes make a *Lixivium*, and out of this *Lixivium* draw the

the Salt of *Guaiacum*, to the same uses and purposes, as the Oyl and Extract.

If you desire to have a Spirit of *Guaiacum*, purified from the greatest part of its flegm, and corrected of its stench, you must rectifie it in a stone Cucurbite, or glazed one, with a glass head in a Sand furnace, the insipid flegm will come first, that you may throw away; then the Spirit will come very acid, which keep, for those uses which we shall speak of anon.

To make the Extract of *Guaiacum*, put some Oyl of *Guaiacum*, to evaporate and thicken into the form of an Extract, into a Cup or a Sand-fire or else draw the tincture of the Oyl of *Guaiacum*, with Spirit of Wine, and so evaporate it to the consistence of an Extract.

Obs. 1. That for this Distillation, we use a stone Retort, because it is not necessary to use a glass one, which would be dearer, and the Spirit is not corrosive enough to corrode this Stone-Metal, as the Spirits of Niter, Salt, or Vitriol would do; besides, that the necks of your glass Retorts are so narrow, that the chips of *Guaiacum* can hardly be got into them.

Obs. 2. That if you use pieces of the heart of the Wood, which are hardest, and by consequent fuller of Oyl, you will obtain more Oyl, than from the shaving; and there is no danger in filling the belly of your Retort with them, because it is not a body apt to swell and run over.

Obs. 3. That *Guaiacum* yields a good deal of Oyl and Spirit, because it is full of Sulphur, and Mercury; the Wood yields better than the Bark;

Bark, and the Wood in little pieces, yields more than in shavings, or great cuts; for, by their thickness, they retain more of Sulphur and Mercury. This Oyl and Spirit are very Salt, and therefore the Wood is heavie, for the Salts give the heaviness to Mixtes. The Oyl is black and foetid, because it has been distilled in a naked Fire, without any *intermedium*; and it is heavie, because of its Salt; as also sharp, for the same reason. The Heart of the Wood yields more Oyl, than that part which is near the Bark; which you may perceive by the eye, for the heart is blackish, and the other is yellowish, like Box, which is the *European Guaiacum*.

Its Use and Vertues: The Spirit is somewhat drying and deterfive; it is excellent for Burnings and old Ulcers, washing them with some Lint dipped in it; besides, if you put five or six drops of it in a bottle of Sudorifick Decoction, it will work a greater effect, than if there were a great quantity of *Guaiacum* in the said Decoction; because, this Spirit has the force of the *Guaiacum*, and besides, much more activity, and penetration, by the tenuity of its Spirituous substance.

The Oyl of *Guaiacum* is very drying, deterfive, and cleansing; it therefore cures rarely well old putrid hard Ulcers, the Gangrene, and the Caries, or Rot of the Bones. Besides, you may give by the Mouth two or three drops of it in a spoonful of Cinamon Water, for a windy, or bilious Colick.

The Extract of *Guaiacum* is very drying, and Sudorifick, and it is given in form of Pils, for Venereal Diseases.

The Spirit of Box.

The Oyl of Ash, &c.

THe Spirit and Oyl of the Wood of Box, of the Wood and Bark of Ash, as likewise of all other Woods, and Aromatick Barks, are drawn in the same way, as the Spirit and Oyl of *Guaiacum*.

The Wood of Box yields more Spirits a great deal, than the Wood of *Guaiacum*; but it yields so inconsiderable a proportion of Oyl, that out of four pound of Wood, you will have but one ounce of Oyl, though four pound of Spirit of Flegm; because this Wood is fuller of Sulphur than *Guaiacum*, but is not so heavie, nor so Salt.

Its Spirit has almost the same vertues, as the Spirit of *Guaiacum*; the Oyl likewise has the same vertues, with the Oyl of *Guaiacum*, but is most particularly excellent for all Contusions, Ulcers, pain, and rottenness of the Teeth.

The Wood of Ash, yields about as much Spirit and Oyl, as Box; its Bark yields but little Spirit, and no Oyl at all.

Its Spirit is an excellent topical Remedy for deafness, and tingling of the Ears, because it does incide, and resolve the humours, and flatuositities which lie in the *Meatus auditorius*, and in the first concavity of the Ear.

Its Oyl is also most excellent for the Rot, or Caries

Caries of the Bones, and for the pain of the Teeth; it appeases the pain of the Kidneys, and Spleen, if the said parts be anointed with it.

The stinking, or fœtide Oyl of Cloves.

TAKE Cloves, whose tincture has been already extracted by Spirit of Wine, (for it would be ill Husbandry to use others, and so lose their Aromatick tincture; particularly, since when, they have yielded their tincture, they are never the worse for this Operation) put what quantity you please of them, into a glass Retort, well luted, place it upon a Round hollow earthen Pan, in the Furnace of a great circulatory Fire, fitting to it a great glass Receiver, give at first a very strong violent Fire, and continue it till there appear no more vapours in the Receiver: these vapours are white, and do turn into black caustick, stinking Oyl. Out of one pound of Cloves, you may have about two ounces of Oyl, and eight ounces of Flegm.

Obs. 1. That we use here a glass Retort luted, because that stone Retorts are too big for the small quantity of Cloves, which is ordinarily us'd in this process.

Obs. 2. That you need not care, if you fill your Retort with Cloves, because they do not swell no more than Woods, or Barks; you may also fill it half full.

Obs. 3.

Obs. 3. That Cloves contain much Sulphur, and sharp Salt, from whence it comes that they yield much Oyl, and that very sharp and caustick.

Its Use and Vertues: This Oyl being very sharp, and biting, is most excellent for Ulcers in the Pox, and all other putrid and venemous ones; as also it is good to exfoliate, or open the superficies of rotten Bones, and for the Gangrene.

Its Spirit is acid, and very good in Tettars, or Ring-worms.

The Oyl of Fet.

TAKE some pieces of Jet, put them into a glass Retort well luted, filling it up to the neck; place it upon a Round hollow earthen Pan, in a circulatory Fire, and fit to it a great Receiver, which lute well to the neck of the Retort, give at first a small circulatory Fire, then the great circulatory Fire, and then a Fire of Suppression; there will appear in the Receiver, an abundance of white vapours, which will dissolve into Spirit and Oyl. This Operation must last ten or twelve hours, with a continual Fire, and four pound of Jet in your Retort: out of one pound, you will have about two ounces of Oyl, and ten of Spirit: Separate by a glass Tunnel the Oyl, that goes to the bottom, from the Spirit, which will swim above, and keep them apart in two glass Vials;

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upon the Spirit you will perceive swimming, divers thick drops of Volatil Oyl of Jet, which you may leave with the said Spirit.

Obs. 1. That we use here a Glass Retort luted for the same reason alledged in the Chapter of the Oyl of Cloves.

Obs. 2. That we fill the Retort without any *intermedium*, because Jet is a dry substance, which does not swell, no more than other Woods and Roots.

Obs. 3. That Jet is a Rocky Stone, which is drawn in great quantities out of some Quarries near *Itholous* in *France*; and this Stone is very bituminous, having much Sulphur, a good deal of Salt, and very little flegm; from whence it proceeds, that it yields a good deal of Oyl, moderately sharp, and heavy.

Its Use and Vertues: The Oyl is most excellent for the suffocations of the Matrix; because of its extraordinary ill smell, being much more stinking than the Oyl of *Guaiac*, or *Karabe*, it serves also to dissolve all bruises, and contusions of the feet, proceeding from walking too much, the flegm has the same, but less vertue than the Oyl.

*The Oyl of Mirrha and other
Gums.*

TAKE a glass Retort well luted, fill it half full of Mirrha, broken into lumps, place it in the Furnace of a circulatory fire. Fit to it a great Receiver of Glass, and give the fire by degrees, there will rise an abundance of white vapours, which in the Receiver will dissolve into a flegm, and an Oyl: this Operation will last five or six hours: Out of one pound of Mirrha, you will have seven or eight ounces of Oyl, and five or six of flegm, separate by a Glass Tunnel the Oyl from the flegm.

Obs. 1. That we use here a Glass Retort well luted, for the reasons alledged in the distillation of the stinking Oyl of Cloves.

Obs. 2. That we fill the Retort but half full, because that the Myrrha does swell a little being heated, and so if the Retort were full, might run over in substance: yet because it is a rosinous dry Gum, it is not necessary to give it any *intermedium*.

Obs. 3. That Mirrha is a Gumme Rosin, having much Salt, Sulphur, and flegm, and therefore yields a good deal of Oyl, which is very bitter and heavy, as also a great deal of flegm.

Its Use and Vertues: This Oyl is very detestive, because of its great bitterness, and therefore

for serves to ripen and Suppurate wounds, being mingled with the ordinary digestive: it hinders the Gangrene, being mingled with the Ægyptiac, or other like unguent: it stinks extremely, and therefore being smelt to, helps the suffocations of the Matrix.

The Oyls of Mastick, Oblibanum, Storax, Benjamin, and all other Gumms, except Camphire, are made in the same way and method, and without *intermedium*, as the Oyl of Myrrha.

The Oyl of Bricks, or of the Philosophers.

Put five pound of powder'd Brick into a Glass Retort well luted, then pour into it one pound of Oyl of Olives, either with a Tunnel or a Paper Coffin, in case the neck of your Retort be so straight, that you cannot pour into it otherwise without spilling. Do not fill above two parts of your Retort, lest the oyl in boyling should run out in its proper substance, and carry the Brick along with it, before it distill. Place your Retort upon a Round hollow Earthen Pan, in a circulary fire, and fit to it a Receiver. Give the Fire by little and little, and have a care you do not put your Coals near the Retort before the flegm be entirely distilled off, which you will know when you shall hear that your matter makes no more noise in the Retort: then encrease the fire, and

lay your kindled Coals near the Retort, and at last give a fire of suppression, by covering your Retort, with kindled live Coals. There will come two Oyls, one red, and the other black and stinking, the distillation ought to be performed drop by drop, and besides these drops there come fumes, that is a sign that the fire is too strong, therefore lessen it. This distillation will last four or five hours: out of one pound of Oyl of Olives, and five pound of Bricks, you will have about four ounces of Oyl, and half an ounce of flegm; separate by a glass Tunnel, the flegm that will go to the bottom, from the Oyl which swims upon the top: if you rectifie this Oyl in a little glass Retort in a sand-fire, it will become yellowish and less stinking.

Obs. 1. That we use a glass, and not a stone Retort, because the Oyl would penetrate the last, and cannot penetrate the first.

Obs. 2. That we give an *intermedium* to the Oyl of Olives, because it can never be distilled alone and would sooner break the Retort, than distill: and this *intermedium*, is rather powderd Brick then any thing else; because it being a spongy porous substance, it is sooner imbib'd, and then having little flegm, because it has been baked, it is fitter for this Operation, where much flegm would be prejudicial, and would go near to break the Retort by its combat with Oyl. Some quench pieces of Bricks red hot in Oyl, then powder and distill them, but they have a very small quantity of Oyl, and yet they must use a great Retort, and a great Reverberatory fire.

Obs. 3. That the Oyl of Bricks is nothing but Oyl of Olives distilled, having acquired by distillation a Tenuity and Thinness of substance, which makes it very penetrative, and warming, and also very stinking; the Brick communicates no vertue to it, and is only an *intermedium*.

Its Use and Vertues: This Oyl is very penetrating, inciding, and resolving, and therefore is most Sovereign for the pains and swellings that come from cold humours, as in the Sciatica, and also for contusions and blows.

The Oyl of yellow Wax.

TAKE five parts of Clay, or powder'd Bricks, put them into an Earthen glazed Pan, and pour upon them one part of yellow Wax, melted: incorporate them well together, and make little Balls and Cylinders to put easily into a glass Retort well luted: fill it up to the neck, place it upon a round hollow Earthen Pan, in a circulary Fire, fit, and lute to it a Receiver, give the fire by degrees, as in the Oyl of Bricks, your matter being once hot, the flegm begins to boyl, and make a noise and comes out first in form of a white Vapour, then the Oyl also in the same form of white vapours, which are condensed into a very red stinking Oyl, which when cold, congeals into butter

butter as yellow as Gold ; This Operation will last four or five hours. For, a pound of Wax, out of which you will have fourteen ounces of Oyl or Butter, and half an ounce of flegm. If you rectifie this Oyl divers times in a little glass Retort by a sand fire, it will become as white, and as clear, as whites of Eggs, and will not stink so much.

Observe, That there are no other observations to be made upon this process, than what has been already observed in the making of the Oyl of Bricks.

Its Use and Vertues are likewise the same; but besides, it is most excellent for the clefts of the Breasts in women.

The Oyl of Yolks of Eggs.

Put twenty or thirty Eggs into a Kettle of cold water, set your Kettle upon the fire and boyl your Eggs till they be hard, then scale them, and take out the Yolks; put all these Yolks together into a frying-Pan, which set upon a Trevet, and make a good flaming fire under the Pan, then, crumble all your yolks with an Iron Spoon, and so turn them now and then, continue thus doing, till almost all your yolks be reduced to a black Oyl, and that there remains but a few burnt black *Fæces*; pour this Oyl, into a little Earthen Pot, keeping with your spoon the *Fæces* from going in with it; this

Oyl does not congeal, because it has been drawn with a great Fire, and you may use it without any other preparation; but, if you desire to have it clearer, and more penetrating, then rectifie it in a glass Retort in a sand-fire: it will become as yellow, as Gold, and will congeal like Butter. If you rectifie it in a naked fire, it will not be so yellow, but it will congeal a little, for by both of these rectifications by a gentle heat, the stinking Sulphur remains in the Retort, and it was this Sulphur that made it stink, and kept it from congealing, which is proved by this following experience, which is another way of clarifying the said Oyl, *viz.* Put the said Oyl into a double Matraass, for a month, over a gentle fire, or in a Lamp Furnace, or ashes, or in Horfe-dung, the Oyl will clarifie its self most perfectly; because its *Faces* will go to the bottom; and then you may easily separate the clarified Oyl from its *Faces*.

Obs. 1. That if you put your Eggs into the water when it boyles, that they will scarce be hard enough, and therefore will not be fit to yield their Oyl, because they retain while they are not hard, something of a superfluous humidity, and in the Pan they would crackle and sparkle, and hardly afford any Oyl.

Obs. 2. That this Oyl, though when it comes from the Pan, be blackish, has not nevertheless any ill taste nor sinell, but when it is rectified, it becomes sharp and stinking.

Its Use and Vertues: It is a most excellent *Balsamum* dr. wn from Volatils; it is anodyne, astringent

gent, agglutinative, and mundificative; and therefore most excellent for all burnings and fresh wounds, as also for the cleavings of womens breasts, and likewise for the descent of the bowels, by anointing the part, then applying a bandage, or truss.

There is another way of making this Oyl, viz, to heat your yolkes in the Pan till they begin to grow red and to burn; then put them into a coorse linnen cloth, Oyl'd with Oyl of Almonds, and so put this cloth under a press, and press out the Oyl, but this Oyl has not the force of the other drawn by the method we have already set down.

The Oyl of Karabe, and the Ambred Spirit of Wine.

R Educe into a gross powder some yellow Amber, (you may make use of the pieces which the workmen that work in Amber pare off, and you shall have it cheaper, than at the Droguists) put four ounces of it in a glass Retort well luted, and pour upon it eight ounces of Spirit of wine, so as your Retort be not above half full, set your Retort on a Round hollow earthen Pan, in the circulary Furnace, and fit to it a good ample glass receiver, which you must not lute to the Retort, lest the vapours of the spirit of wine, which

which cannot be contained in the Receiver, should break it: but be careful in luting the gap of the furnace, about the neck of the Retort, lest the flame should reach the Receiver, and there set on fire the vapours of the Spirit of Wine, and from thence the flame would get into the Retort. If such a thing should happen, the remedy would be, to stop presently the mouth of the Retort with some Lute, to choak the flame. Encrease your Fire by degrees, and when you perceive that the Receiver is not very warm, then encrease your Fire more, and give a Fire of Suppression, to the end, you may drive out the Oyl of Amber, together with the Spirit of Wine: continue your Fire, till you perceive no more clouds in your Receiver, for that is a sign that all the Oyl is extracted, and distilled from the Amber: you will find two ounces of black Oyl of *Carabe*, or Amber, and eight ounces of Spirit of Wine impregnated, with the red Tincture of the said *Karabe*, separate by a glass Tunnel, the Oyl from the Spirit.

Obs. 1. That we distil Amber with Spirit of Wine, to the end, we may have the vertue of the Amber in a higher degree for penetration, and less stinking. It may be distilled all alone, and without *intermedium*; because, that though it be a bituminous Body, nevertheless, it is so dry, that it does not swell in the Retort: but, when it is distilled alone, its Oyl is as black as Jet, and much of a worse smell, and cannot become yellow, but by reiterated rectifications.

Obs. 2. That if upon the said Oyl of Amber

you

You put Spirit of Wine, it will presently be tinged with it, and will have the same vertue as the Spirit of Wine, that has been distilled with Amber.

Obs. 3. That Amber is a bitumen so oylous, that it is almost all Oyl, and contains but very few *faces*: since out of one pound of Amber, you may draw fourteen ounces of a black Oyl; inso-much, that it is nothing but a bituminous Oyl, congealed by a little terrestrial substance.

Its Use and Vertues: The Oyl of Amber is very bitter, and stinking, and therefore excellent in the suffocations of the Matrix; either taken inwardly, in the quantity of three or four drops in some appropriated water, or else smelt to, or appointed upon the Temples; it is most excellent in old Wounds, and particularly of the nervous parts, because of its deterfive balsamick vertue.

The Spirit of Wine ambred, or tinged by yellow Amber, is likewise a most excellent Remedy, taken in the same way, for the suffocations of the Mother, and for the falling Sicknes. It is besides, a most excellent exterior Remedy for the Palsie, the Sciatica, the Cold Gout, all cold Fluxions, and all bruises of the Nerves. And this, because of the great tenuity, and penetration of its substance, and its resolute, and balsamick vertue: but, when you do rub any affected part with this Remedy before the Fire, have a care you come not too near, lest the Fire should catch hold of and burn the party.

The Oyl of Camphire.

Put two ounces of Camphire slightly powdered, into a Matraass of an ordinary size, and pour upon it four ounces of spirit of Niter, shake your Vessel gently for half a quarter of an hour, to the end, that this agitation may whet the Spirit, and make it operate the sooner upon the said Camphire; then let them stand together, far from the Fire, within two hours the Spirit will dissolve the Camphire, without any sensible ebullition or smoak, and there will swim upon the Spirit, a clear transparent Oyl. Separate by the glass Tunnel, the said Spirit which will be at the bottom, and will have lost a good part of its caustick Acrimony; keep your Oyl in a glass Vial well stopped.

Obs. 1. That this Oyl of Camphire, is nothing but Camphire dissolv'd by Spirit of Niter; for, if you throw a little Water upon this Oyl, the Camphire will presently be coagulated into its first white consistence, and smell, because that the water by weakning the Spirit of Niter, which kept the Camphire in dissolution, makes it lose its hold, and so the Camphire precipitates to the bottom.

Obs. 2. That of all the Gums and Rosins, none but Camphire does melt into Oyl in its dissolution, by Spirit of Niter, which may extract the tincture of the other Gums, but cannot dissolve them.

Its Use and Vertues : are to exfoliate the Rot of the Bones, by the strong penetration, and dryness of both the Spirit of Niter, and the Camphire ; therefore is it most excellent wherewith to touch the Nerves, that are bare, and naked in wounds ; for it consumes gently, the sharp humour which falls upon them, and makes the said wounds most grievous, and by its own anodyne, and mollifying vertue of the Camphire, it takes away a great deal of the pain of the said Nerves.

The Spirit of Wine Campherised.

Put as much Camphire as you please into a Matraass, pour upon it Spirit of VVine, till it be four fingers above your matter ; fit to this Matraass another little one, and so make a double vessel ; lute them well together ; with slices of Paper, place your Vessel in a Sand-Furnace, and there let it stand, till the Camphire be entirely dissolved in the Spirit of VVine : the Spirit will then be clear, and transparent as before, and the Camphire will have a pleasant smell. There is nothing to be said about the dissolution of Camphire, by Spirit of VVine, since Camphire is a kind of Gum-Kolin, and that Spirit of VVine has the vertue of dissolving all Gums by the homogeneity of its substance, and the tenuity of its parts.

Its Use and Vertue : It is a most excellent *anodynum* to appease the Tooth-ach, by putting a little Cotton

Cotton dipp'd in the said Spirit of Wine, to the pain'd Tooth, and it is good to help the paines in the Ears, by dipping in it some black Wool, cut off of the Stones of a black Ram, and so put into the Ear.

The Aromatick tincture of Cloves.

Put of whole Cloves, what quantity you please, into a Matraass, and pour on well rectified Spirit of Wine, to the height of four fingers above your matter, make a double Vessel, with another small Matraass, fitted to the first, and well luted together; place this vessel in a Sand-heat, and there let it stand, till the Spirit of Wine be dyed of a red-blackish colour; separate by inclination this tincture, and keep it in a glass Vial well stopp'd. Of this tincture, may be made a Syrup, by putting to it a sufficient quantity of Sugar, and so boyling of it to the consistence of a Syrup: or you may make of the said tincture an Extract, by evaporating your tincture to the consistence of an Extract.

The Use and Vertues of the Tincture, Syrup, and Extract, are, to comfort and strengthen the Stomach, by consuming cold, superfluous humours, take away the pains of the Colick; it is excellent against all Faintings of the Heart, and kills worms in the body. The Dosis is a spoonful of the Tincture, or Syrup, and a Pill of the Extract, or else you apply Linnen dipt in the said

said Tincture, upon the Stomach, Belly, and Navel.

Cinnamon Water.

Put four ounces of whole Cinnamon, not powdered, two pound of White-wine, or Sack, into a Glass, or Stone Cucurbite, place it in a Sand Furnace, with a glass Head, and Receiver, there will be distilled a Water very clear, and full of Spirits, which from time to time you must take, and pour out of your Receiver, to the end, it be not mingled with the gross flegm, which will come at last of a whitish, muddy colour.

Obs. 1. That you must not distil Cinnamon-water in a Cucurbite of glazed Earth, lest the Cinamon should whet the Spirit of Wine, and make it corrode the Lead of the Vernish, and so being impregnated with the *Saturn*, alter its own vertue.

Obs. 2. That the Water of Cinnamon, is nothing but the purest part of the Wine, impregnated with the Volatil Aromatick Salt of Cinnamon.

Its Use and Vertues: It is a good Cordial, fortifies the Stomach, facilitates, and helps the delivery of Women in Child-bed; the flegm of this Water is fitter to make the Syrup of Cinnamon, than common VWater, by infusing in it some new Cinnamon, and after the straining, dissolve in it
a suf-

a sufficient quantity of Sugar, and so boyl it up to a Syrup. This flegm contains a little Spirit of Wine in it, with a little of the Volatil Salt of the first Cinnamon; and so is fitter to open, penetrate, and extract the substance of new Cinnamon, than simple common water.

The Spiritus Ardens, or burning Spirit of Honey.

The sweet Tincture of Honey.

The stinking, or facid Oyl and Spirit of Honey.

The stinking Tincture of Honey.

Put into a Glass, or Stone, or glazed Earth Cucurbit, one pound of good Honey, and two pound of white-wine; place your Cucurbit in a Sand-Furnace, and set it half way into the Sand, fitting to it a glass Head and Receiver, give a good Fire, and continue it till all be distilled, and that you hear nothing boyl in the Body; then there will remain a very black, thick Honey: keep the distilled Liquor, which will be of two sorts, the first will be clear and transparent, and in a small quantity, and in this is the burning Spirit of-Honey, and the Spirit of Wine. The second will be of an Orange colour, and more in quantity, and contains the flegm of the Wine, with the sulphureous Tincture of the Honey.

Take

Take the *Feces* of the said Distillation, put them into a Stone Retort well luted, and put to them alike quantity of River-pibble-stones calcin'd; place your Retort in a Reverberatory Furnace, fit to it a great glass Receiver, and give your Fire from the first to the last degree, for the space of some hours, till there come out of the Retort, neither vapour nor liquor; then you will have in your Receiver, a Spirit, and stinking Oyl of Honey; and there will yet remain some *Feces* in your Retort.

If upon these *Feces* you pour Spirit of Wine; till it be four or five fingers above your matter; you may have by digestion in a Matraass, or double Vessel in a Sand-Furnace, a foetid Tincture of Honey, as red as Claret VVine.

The Use and Vertues of all these Tinctures, Spirits, and Oyls, Are to make the Hair grow stiffer and thicker upon Bald-heads.

The Vinegar of Saturn.

The Butter, or Balsamum of Saturn.

BOyl some distilled Vinegar in a Brass, or Tin Skillet, or in a glaz'd Pipkin; pour it out boyling hot upon *Minium*, or *Seruse*, or *Lytharge* of Gold or Silver, reduc'd to powder, or upon calcin'd Lead; let your matter be in a glaz'd Pan, and you must have so much Vinegar, as may be four or five fingers deep over your matter. Stir

M

it

it a little with a wooden *Spatula* (not with an Iron one, for it would black both your Liqueur, and the Salt to be extracted out of it) in an hours time your distilled Vinegar will become sweet and sugar'd, and impregnated with the Salt of *Saturn*.

To make the Butter, or *Balsamum* of *Saturn*; melt one ounce of white Wax, in a little glaz'd Pan, then put to it four ounces of Oyl of Olives, mingle them well with a wooden *Spatula*, pour this mixtion immediately into a Brass Mortar, and upon it, a glass full of the Vinegar of *Saturn*, stir them well together with a Brass Pestle, till the Oyl and Wax be both impregnated with the Salt of *Saturn*, contain'd in the said Vinegar, and that all the Composition be thick and white, as the soft Ointment of white Roses.

Its Use and Vertues: This Vinegar serves to appease inflammations and pains, being applied outwardly to any part, by Linnen dipp'd in Virgins Milk, made of one spoonful of this Vinegar, and a glass of Water; it may also be useful in Injections, in recent and fresh Gonorrhœa's, to appease the violence of the pain. And observe, That this Vinegar, pour'd upon any distill'd Water, does not whiten it, nor make it like Milk.

The Butter, or *Balsamum* of *Saturn*, serves to cool and appease the ardour of inflammations, as well of the Stones, as of the Hemorrhoides, and other parts: as also, it produces the same effect in *Erysipelases*.

The Plaister of Saturn.

Put one pound of Oyl of Olives into a vernish'd Pan; add to it four ounces of well powder'd *Minium*, or Mine-Lead, and so boyl them together; stirring them sometimes with an Iron *Spatula*, till they be reduced to the consistence of a Plaister, as black as Jet; you may add to it a little Wax to give it a Body.

Its Use and Vertues : It is most excellent in dissolving those fleshly Excrescences, and Ulcers called *Wolfses*.

The Extract of Hellebore.

Put half a pound of the Roots of black Hellebore, cut into little bits, into a capacious Matrafs, pour on Spirit of Wine, four fingers above your matter; fit to it another little Matrafs, to make a double Vessel; place it in a Sand-Furnace, and there let it stand in digestion three or four days; and let not the belly of your Matrafs be above a quarter-way in the Sand, nor do not make your fire so great, as to make your Spirit of Wine boyl; for, then part of your Spirits would exhale, and be gone; yet, let there be heat enough to extract the red Tincture of the Roots. Separate this Tincture by Inclination, or if there be any *Faces*, filtrate it through a

Coffin of brown Paper; pour this Tincture into a glass Body, which set in the same Sand-Furnace, and fit to it a glass Head and Receiver, and so draw off by Distillation, as much Spirit of Wine, as you poured on, which will serve you for other uses; then take off the Head, and evaporate your matter to the consistence of an Extract like Honey.

In the mean time, boyl the Roots left in the Matraass in a quantity of common Water, to make a Decoction, which strain through a course Linnen, then clarifie it with Whites, and Shells of Eggs, and evaporate it in a stone, or glaz'd earthen Pan, to the consistence of an Extract, which you may mingle with the precedent, if you think good.

We draw these two Extracts separately, and with different menstruums, because, that the Spirit of VVine extracts only the gummy rosinous part, and cannot extract the saltish: and the common Water does quite contrary.

Its Use and Vertues: It purges Melancholy most commonly with a loathing, and sometimes with vomiting.

An Essence for the Tooth-ach.

Put of the Spirit of Wine campherized, of the Tincture of Cloves, of the Oyl of Box, of the Oyl of *Guaiacum*, of the black Oyl of Sulphur, and if you will, of the Tincture of
Opium,

Opium, of each an equal part, there will result an oily red transparent Liquor, which you must keep in a glass Vial well stop'd.

Its Use and Vertues : It is a most excellent Remedy to appease the Tooth-ach, and draw off the sharp humour that falls on the Teeth ; you must pour some of it into a glass, and then dip a little Cotton, of which make a Pellet, as big as a Pea, and apply it to the Tooth, or in its hollow part, if there be any ; there will presently distil from it a good deal of Water, and the pain will cease.

Turpentine Pills.

Put four ounces of clear transparent Turpentine of *Venice*, into a glaz'd Dish ; pour upon it three times as much Water, boyl them together with a gentle heat, till your Turpentine look white, and not yellow, as before ; then take out a little of it upon the point of a Knife, and let fall a drop or two, upon a pewter Plate ; if you see that the drop, when cold, does not stick to your fingers, then it is boyl'd enough to make Pills of ; so take it off, and pour cold Water into your Pan, that will precipitate the Turpentine in a white Paste : take this Paste, and knead it with your hand to wring the Water out, you may wipe your Turpentine, with some Linnen, but you must do it gently, lest while it is warm, the Linnen should stick to it ; then add to it one ounce of a Diaphoretick Antimony, half an ounce

of Salt of Sulphur, and as much of *Cremor Tartari*, incorporate them together into a lump, which will soon grow hard, but will easily grow soft again, being handled before the fire. Keep this Mass for Pills, in a Hogs bladder, well oyl'd with Sallet Oyl.

Its Use and Vertues: These Pills do dry up, and stop Gonorrhæa's when they have flow'd enough, by giving half an ounce for Dosis, for the space of a fortnight or three weeks. For those that cannot swallow Pills, you must boyl your Turpentine a little more, till it grow so hard upon the Plate, as to be broken in pieces, powder this in a mortar, and add to it the same Druggs, as above. The Dosis mentioned will be the same here, and must be dissolv'd in white Wine, or in Broth, or in some Decoction, or appropriated Water.

The distilled Water of Plants.

Put a good Hand-basket full of leaves, (for Example of Plantane) new gather'd, and fresh, into the Brass Vesica, add to them about four quarts of Water, to the end, the Herb may boyl during the distillation, and that in boiling, the said Water may extract, and be impregnated with the vertue of the plant; yet, let not your Vesica be above three quarters full, lest the Water in boiling, should carry the substance, and not the vapours into the *Moors-head*. You need not put any sponges into the neck of the Vesica,

sica, as you do in the distillation of the Spirit of Wine, because these sponges would hinder the passage of your vapours; fit to your Vefica its *Moors-head*, bordered with its Refrigeratory; and make use also of the second Refrigeratory, that is, of the two Hogsheds full of Water, as has been taught in the distillation of Spirit of Wine; this will further the distillation of your Water very much. Give at first a good Fire of Coals, and two or three Fagot-sticks, continue this Fire, and moderate your Distillation so, as to make a little stream of Water come always into your Receiver, into which it will not fall perpendicularly, as the Spirit of Wine does, but a little arch-wise. As soon as with this little stream you perceive that there come vapours into the Receiver, lessen your Fire, to hinder the loss of these vapours, which spend themselves in vain. If your Distillation be performed but slowly, and drop by drop, or in a very little stream, falling perpendicularly, then encrease the Fire, that you may not lose your time by an unnecessary protraction of the Distillation. From time to time empty your Receiver, and immediately pour it through a glass Tunnel into a stone Pitcher.

As soon as you perceive, that there comes into your Receiver a muddy Water, then be sure, that all the good part of your Operation is at an end; because, this muddy Water proceeds from the burning of the Plants, which begins to send forth its Spirit, and stinking Oyl; therefore give over distilling, put out your Fire, take out the Grounds of the Herbs left in the bottom, and

throw away the muddy Water that you shall find there with them; after which, begin a new Distillation with new Herbs, and new Water.

When you have gathered all your Water into stone Pitchers, put into them some Saltpeter, well purified, and crystallized, half a dragm to every pound of Water.

Obs. 1. That you must not put your Water into an earthen Vessel unglazed, because, at last it would lose its self entirely, through the pores of the Potters-Earth, which is very porous and spongius; therefore, always put it in Glass, White-ware, or glaz'd Vessels, or Stone, because that these are very dry and thick, and there is no danger in glaz'd Pots, because your Water has no Acrimony wherewith to corrode the glazing: all the danger is, that the Frost should break them; for preventing of which inconvenience, you must keep your Vessels in a warm deep Cellar, or in a Box full of Hay.

Obs. 2. That the refin'd crystalliz'd Niter which you put in your Water, serves to preserve it for many years; and that Niter is fitter for this purpose, than the fix'd Salt of the Plant, which would be very tedious to extract, by drying and burning of the *Fæces*, then infusing the Ashes, then filtering this *Lixivium*, then evaporating it to the consistence of a Salt.

Obs. 3. That you must presently stop your stone Pitchers with a Cork stopple; and it is not necessary to expose them to the Sun-beams.

Obs. 4. That to make Rose-water, it is better to put pale Roses well picked, into a great earthen

earthen glazed Pan, and add to them water and common Salt: for example, upon six pounds of Roses, as many quarts of water, and one pound of common Salt, and so let them macerate and ferment two or three days, then put them into the Vesica, and distil them; observe, that during the distillation, and after it is done, the Rose water does smell but very little of the Roses: but if you will quicken the smell, it is but setting your Pitchers some days in the Sun, covered only with a white Paper: then take them, and stop them close with a cork stopple, and set them up,

Its Use and Vertue: It is the same with the vertue of the Plant it is distilled from.

The soft Conserve of Leaves and Flowers.

TAke a deep large Pan, set it in such a Furnace as the great Reverberatory Furnace, throw a handful or two of sand into your Pan; then place in it a stone Pitcher of a quart, five quarters full of water; fill up your pan with sand, so as to bury the belly of the pitcher in sand. Then put into the mouth of the Pitcher, a Glass, or Tin Pipe, as big as your little finger, and a foot long; being bended in its middle angular-wise; one end of it must be so streight, that a drop of water may not go through

through in substance, the other end must be pretty wide: put the wide end lapt about with a little Linnen into your pitcher, and then make a fire in your Furnace, and cause your water to boyl; as soon as it boyls, there will come out with violence at the little end of the Pipe a moist burning vapour: which will stream above half a foot beyond the Pitcher, and yet not a drop of water with it: set under this vapour a pan full of Leaves or Flowers newly gathered and fresh; having before hand sprinkled upon them two or three spoonfuls of Spirit, or Flegm, or Vitriol, or Sulphur; these Leaves or Flowers will fade by little and little, as they receive this penetrating vapour. In the mean time, you must turn them continually, till they become like a thick hasty pudding, which will be in half a quarter of an hour; then take out these Flowers thus prepared, put in more, continuing so, till you have prepared all your Leaves and Flowers, then put them all together into an Earthen Pan, and add to them double their weight of fine Sugar, well powdered and searced; incorporate them well together with your *Spatula*; and thus you will have a very pleasant good conserve, which will keep as long as that which is made by beating the herbs in a Mortar, keep it in white ware pots.

Obs. 1. That we have filled our Pitcher but three quarters full, to the end, that the water in boyling, should not come out through the little end of the Pipe in its own substance, but in Vapour.

Obs. 2.

Obs. 2. That the Spirit of Vitriol, or Sulphur, with which we sprinkle the said Leaves, or Flowers, serves for two ends: First, it revives and quickens their natural colour, preserves it, nay, and re-cals it, if it were a decaying; Secondly, it is as a Salt to these Leaves, or Flowers, to preserve them from corruption.

Obs. 3. That in all seasons, even in winter, you may by this method make a soft, or Liquid Conserve of Roses, with dry Roses, whose dying yellowish colour, you may this way revive, and make them of a lovely red. But the Operation will be somewhat tedious, for it will last an hour, but also the Conserve will last and keep longer, than if it had been made of fresh Roses.

Obs. 4. That if you take a straight Pipe, half a foot long, and put the wide end of it into the nose of the cover of the Brass Vesica, which must be half full of water; then the Sulphur that shall come out of the streight end of the said Pipe, will do the same effect, as the Engine described already.

Obs. 5. That if you sprinkle the Conserve of Flowers of wild Popies, with Oyl of Tartar, made *per deliquium*, or by dissolution of its Salt; and then stir the said conserve, it will become of the colour of Violets, like Syrup of Violets, and if you sprinkle the conserve of Roses with the said Oyl of Tartar, and then stir it; it will become as green as growing grass.

The Lime Water and Phagedenick Water.

TAKE four or five pound of quick-Lime in stones, and not in powder, and choose such stones as are very well calcin'd; put them into a barrel knocked out at one end, or into a great stone Pot; throw upon it at once two pale fulls of water, and then stir it with a stick; reiterating the agitation from time to time: there will be a very great ebullition & smoak, in which the volatil Salt of the Quick-lime will evaporate, in two hours or thereabouts the boyling will cease, and the Quick-lime will fall to the bottom: upon the surface of the Water there will remain a thin transparent white Ice, which is the essential Crystallized Salt of the Quick-lime; let this water stand for some days, stirring it from time to time that it may be well impregnated with the Salt of the Lime; or else at first, you may separate it by inclination from the Lime that is in the bottom, and then filtrate it through a brown Coffin of Paper, and so keep it in great Glafs, or white Ware Bottels, or Stone ones if you will; provided they be all well stopp'd with Cork stopples.

Obs. 1. That here we quench, or slack the Quick-lime on a sudden, & all at once, and so by a great ebullition and evaporation, the volatil Salt of the Lime is dissipated: for in this remedy

we

we do not need the volatil Salt, as we do in our Cauteries; it is enough here, that the Water be impregnated with the fixt Salt of the Quicklime, to be fit to cleanse and dry Ulcers.

Its Use and Vertues: It consumes the superfluous humours in Ulcers; resists corruption, dries them and cicatrises them. It serves also for mealy Ring-worms, for the Itch, Scales, and Erysipelas, for Inflammations: but you must have a care to make it more or less sharp, according to the nature of the distemper, and the sensibility of the part you intend to apply it to: which to do, you need only put more or less common water, according as you will have it, more or less acrimonious: for, the force of this water is in its Salt; which you cannot sweeten but by increasing the dose of common water, and diminishing that of the Salt. Therefore it is but trifling to make two or three Lime waters one after another upon the same Lime.

To make the Phagedenick water; put two pound of the said Quicklime Water into a Glass Bell, or an Earthen white Ware Pan, and put to it, from half a dragm to a dragm, of Corrosive Sublimate well powdered, (in an Earthen white Ware Dish with an Earthen Pestle.) This Water, and the Sublimate, after the first stirring of them together, will become presently of an Orange colour, the Sublimate will go to the bottom, and is called the Orange-Sublimate. If you have a desire to make your Phagedenick Water weaker, pour upon it two pounds more of Lime Water; then the water

ter and the Sublimate will change their Orange colour into a Lemmon : keep this water, together with its Sublimate, in a Glafs Vial well stopped for your use.

Obs. 2. That the Sublimate from white becomes yellow or orange colour, when mixt with the Lime water, because that those Sulphureous Salts, of which the Corrosive Sublimate is not deuested, being to engage with the Salt of the Lime, are quickened, and so revive their colour in the conflict, so much as to communicate their tincture to the VVater and Sublimate.

Its Use and Vertues : In this VVater we dip Linnen, and apply it to old rotten Ulcers, full of frothy flesh, to consume the ill flesh ; correct the putrefaction, cleanse and produce better flesh, and at last dry them, and bring them to cicatrize.

The Magistery of Coral.

The Salt of Coral.

TAKE as much as you please of red Coral (that which is in little branches is the best) beat it to a fine powder in a Brass Mortar, and put it into a Glafs, Stone, or VVhite-ware Vessel, pour upon it Spirit of Sulphur two or three fingers high above your Matter ; let them stand together, far from the fire, and there the Coral will

will dissolve; while it dissolves, there will be an ebullition with a little noise, which ceasing, marks to you that the Spirit is loaden with as much of the Coral, as it is able to dissolve; and it has lost its great acidity and sharpness. Pour off by inclination this dissolution, and put it into a Vessel apart, then pour new Spirit upon the *Feces*, and continue so doing, till you have dissolved all the Coral. This done, put all your dissolutions together into a Glass Bell, and pour upon them cold water, in such quantity, and so often, till at last your water come away without any taste; filterate that which remains through a Coffin of white Paper, upon which let it dry, or make Trochisks of it, as has been taught in the Chapter of the Diaphoretick Antimony.

Obs. 1. That to make your dissolutions you must not take an earthen glazed Pan, lest your Spirit of Sulphur should spend its force upon the glazing, and black and spoyl your Magistery, nor you must not take a Vessel of potters earth unglazed, because that this earth being porous, would imbibe and consume the Spirit in its porosities: now your Stone Vessels are of a thick compact Matter, and your White-ware is a kind of glass.

Obs. 2. That instead of Spirit of Sulphur you may use Spirit of Vitriol, but because Vitriol naturally blacks all it comes near, your Magistery will not be so white; you may also make use of distilled Vinegar, or juyce of four Lemmons; but we do not, because we should need too great a quantity

a quantity, and so it would prove dearer, and your Operation would only be longer, but not better.

Obs. 3. That the Magisteries of Crabs eyes, Pearls, Bezoard, mother of Pearl, are all made the same way as the Magistry of Coral; yet we shall give a description of some of them by another method.

Obs. 4. That both the Magistry, and the Salt of Coral, are nothing but a Calx of Coral; or a Philosophick calcination of it, by the corrosion of the Spirit of Sulphur: all the difference that is between the Magistry and the Sulphur, is, that the Magistry is a Calx slackened, washed and sweetened by common water, and so freed from the acrimony of the Salt of Sulphur, whereas the Salt of Coral is a Calx, yet impregnated with some rest of Spirit of Sulphur, incorporated in it by crystallization, or not driven away by the fire in the drying; from whence it proceeds that the Magistry is insipid, but the Salt of Coral is acid and biting upon the Tongue, and from thence it has the name of Salt, though in effect it be no salt: for it is not to be dissolved in water, and is properly a Stone, salted by the impregnation with the Spirit of Sulphur: for, if you go about to dissolve it, there will be in the water nothing but some Spirit of Sulphur, so that if you continue sweetening this Salt, you will at last make the Magistry of Coral of it.

Its Use and Vertues: The Magistry and Salt of Coral have the same vertues with pure Coral;
but

but they are exalted, because the body of Coral being opened, is more penetrating, and so fitter to carry its astringent corroborative faculty to the remotest parts of the body: yet it is certain, that there where the design is only to take away the Acrimony of those humours, which do corrode the Stomach and Intestines; there, I say, ordinary Coral, well powdered, is better than its Magistery; because, that the Chymical Operation will be performed in the body with more benefit, by those corrosive sharp humours, which meeting with the Coral, fall to dissolving of it, and so dull their own Acrimony, which is the most malignant thing in the body. We see nevertheless by experience too, that if upon the Magistery of Coral, you pour new Spirit of Sulphur, or of some other Acid, there will be a more sudden and stronger ebullition, though it last not so long as in the first dissolution of Coral; and therefore, the serous sharp Humours of the body, may produce the same effect upon the Magistery. But the Dissolvant meeting not with so much resistance in Coral already opened and calcin'd, as in natural Coral, does not work with so much force, and therefore dulls not its activity, nor loses so much of its Acrimony after the dissolution.

*The Balsam of Saint John's Wort
compounded, drawn by the Spirit of
Wine.*

Put into a Matraass five or six ounces of Spirit of Wine, put to it Myrrhe, Aloes, and *Sanguis Draconis*, all well powdered, of each a dragm; place your Vessel in a Sand-fire, to make your Gums dissolve; which will be done in two or three hours time, then add to them as much of the dry Flowers of Saint John's Wort, as you can take up with your thumb and four fingers; the Spirit of Wine, though it have dissolved the Gums, will yet extract the Balsamick Tincture of the said Flowers; next day take off your Vessel out of the Sand, and strain all your matter through a Linnen Cloath, by pressing it while it is warm, then dissolve in it half an ounce of *Venice Turpentine*, by setting your matter for half an hour upon a Sand-fire; thus you will have a red, unctuous, and mucilaginous Balsam.

Observe, That if you had extracted the Tincture of your Flowers, before the Tincture of the Gums, the Spirit would have been weakned, because it would not only have been loaden with the oily part of them, but also with the flegm, and therefore would not have been able to dissolve the said Gums.

Its Use and Vertues: It is a most excellent Balsam for all green Wounds, Contusions, and for the Sciatica.

The Corrosive Sublimate.

YOU must have two Pans of Potters-Earth unglaz'd, which must be turned up-side down, one upon the other, and be so exactly fit, as to make but one Pan in this situation; and therefore they must have been baked together in a Potters Oven; in the uppermost, must be a hole big enough to put an Egg into; then take Quick-silver, and good refin'd Niter deflegmated, of each a pound, common Salt well decrepitated, and green Vitriol well calcin'd into red, of each half a pound; powder your Salts, and incorporate with them your Quicksilver, by beating them together in a Marble Mortar, with a Wooden Pestle, and sprinkling distill'd Vinegar upon them, till you have reduced them to a kind of paste; put this paste by pieces into the Pan, by the hole left in the top, and then stop it with Lute, so as to leave only a vent of the bigness of a good big Pin; place your undermost Pan up to the brim, in the Furnace of the Fire of great Reverberation; taking care to leave in your Furnace three gaps, to give the Fire Air, viz. one over against the Fire-room, and one of each side, for else your Pan being set so deep into the Furnace, would go near to suffocate, and put out your Fire: give at first a strong Fire, and when you have brought it to the highest and last degree, continue it twelve hours. While the Operation lasts, you must have a care to keep open the little vent, that is left in

the Lute; you may therefore, with a Wire, gently open it from time to time, that so your matter may send forth freely its most fiery vapours, which else would break your Vessel, and in the breaking spread such a malignity by their abundance, and sudden eruption, as would go near to infect you. After twelve hours, let your Fire go out, and when your Pan is cold, break the uppermost part of it, and you will find a loaf two or three fingers thick, sticking to the sides of the lowermost part, as white as Snow; icy in its circumference, and crySTALLIZ'd in its middle.

Obs. 1. That in *France* we do not make much of this Sublimate, because we can have it six times cheaper from *Venice*, where common Salt, Mercury and Vitriol are very cheap, because they are not far from the Mines, and near the Sea. The *Hollanders* do also bring some to *Paris*, but they sophisticate it commonly with white Arsenick: We have taught to discern this cheat in the Chapter of the dulcified Sublimate.

Obs. 2. That the Corrolive Sublimate is nothing but Quicksilver, calcin'd and incorporated with Niter, and the Spirits of common Salt, and Vitriol by the Fire, which sublimes all these Volatils into one lump. The common Salt and Vitriol remain in the bottom of the lowermost Pan, almost as heavy as when they were put in, because that they are naturally fix'd; the fix'd Substance of the common Salt, and deflegmated Vitriol, serve to hinder the melting of the Niter; and the Spirits of these two serve to corrode the Mercury, and make it strongly corrosive, by the conjunction of all these Salts together.

Its Use and Vertues: 'Tis the strongest Corrosive of all, it serves to make the dulcified Mercury, the Emetick Powder, the Phagedenick Water, and that Unguent, which for the violence of its inflaming and burning Operation, is called, *The Devil's Unguent*: It is the poison we call *Ratsbane*, and kills Rats and Mice by burning their entrals, as if they had live coals in them; producing the same effect in all Animals, and men too, if they swallow any of it. The Antidote of it, is not any *Theriaca*, or *Victan*, or other Cordial; there is nothing but Water in abundance, that by humecting and wetting the Salts, is able to take away their Acrimony, though Oyl be very good too; for, Oyl and Grease, because they cannot dissolve, and melt these Salts, make them at least remain without force upon those parts which are oyled or greased, as we may see in the operation of Cauteries, applied to a very fat man; for, as soon as they have corroded the skin, they are fain to stay there, and shew their caustick vertue no further; because they meet with the *Panicula Carnosa*, or *Adiposa*, which stays their action, there is nothing but a waterish humidity, which by melting of these Salts, gives them leave to work.

The Balsam of Sulphur, drawn by the Oily Spirit of Turpentine.

Put into a Matraſs four ounces of Flowers of Brimſtone, or elſe Brimſtone powder'd very fine, and one pound of Spirit of Turpentine, incorporated with its Oyl, ſuch as the Merchants ſend from *Provence* to *Paris*; let your Matraſs be but half full, place it in a Sand-fire, and fit to it another Matraſs, and ſo make a double Veſſel. In this heat the Spirit will begin to ſimper, and preſently after the Brimſtone will melt, and dye the Spirit of a fine colour, as red as a Pomegranate: govern your Fire ſo, as to hinder your Spirit from boyling; in one or two hours the Operation will be done. Then take off your Veſſel, and pour out your Diſſolution, while it is warm, into a ſtone Veſſel, or of glaz'd Earth; in it, the Sulphur, as it grows cold, will go to the bottom, and congeal in a yellow lump, and the Tincture will remain above; when your Tincture is cold and clear, by the falling down of the Brimſtone, pour it off by inclination, and keep it in a glaſs Vial.

Obſ. 1. That this Spirit of Turpentine has drawn not only the red Tincture, but alſo the ill ſmell of the Brimſtone, ſo as to loſe its own odour.

Obſ. 2. That the Brimſtone, which you find after the Operation done, weighs almoſt as much as when you put it in, having communicated to the

the Spirit of Turpentine little besides the colour, and smell of Brimstone.

Its Use and Vertues : It is a most excellent *Anodinum*, and Ripener for the wounds of the nervous parts, and is very good for pains in the ears, by putting some drops of it into them.

The Essence of Musk, and Ambergreece, drawn by Spirit of Wine.

Put into a small Matrafs, one dragm of Ambergreece, and half a dragm of Musk, well powder'd before hand ; pour upon them five ounces of Spirit of Wine, seal up your Matrafs hermetically, and put it into a little earthen Pan full of Sand, up to half the belly ; set it in the Sun for forty days, in the hottest time of the year, from eight of the clock in the morning, till seven at night ; keeping behind your Matrafs a Tin Leaf, to receive the Sun-beams, and reverberate them upon the glass. The Musk and Ambergreece will be almost quite dissolved in the Spirit of Wine, and will dye it of a red colour, like a Ruby ; break the neck of your Glass, and pour out your Essence into a glass Vial, well stopp'd, and waxed, and above the stopple, put a piece of an oyled bladder.

Obs. 1. That Ambergreece being a kind of Bitumen, and Musk being of an oyly nature, they may easily be dissolved in Spirit of Wine, and communicate to it their Tincture.

Its Use and Vertues: One drop of this Essence perfumes for ever whatsoever it touches, that can imbibe it; and is much more pleasant with a double quantity of Ambergreece, than with equal parts of Musk and Ambergreece, because the odour of the Ambergreece is sweeter, and that of the Musk stronger.

The Tincture of Tartar, or Spirit of Wine clarified.

TAKE as much as you please of Tartar calcin'd to whiteness, properly called Salt of Tartar, or of Ashes made of burnt Lees of Wine, call'd Gravell'd Ashes; put either of them into a Crucible, or unglaz'd stone Pot, place it in a Wind-Furnace, till your matter be blew, like Vitriol of Cyprus, which may be done in an hours time: take off your Pot, and with a brass Spoon take out your matter, and powder it while it is hot, in a brass Mortar, and then put it into a Matrafs, which you must stir, and shake in your hand, to the end the heat of the matter may extend its self equally to all the parts of the Glas, and not break one by over-heating it. Let your Matrafs have two parts empty, pour into your matter Spirit of Wine, till your Glas be half full; place this Vessel in a Sand-Furnace, giving an ordinary Fire according to Art; let it stand till the Spirit of Wine become as red as a Ruby, then pour off by inclination this Tincture, pour on
more

more Spirit upon the *Fæces*, and reiterate this as long as the *Fæces* will yield any Tincture, there will remain a good quantity of the said *Fæces*, which you may re-calcine, and use as other Salt of Tartar; keep your Tincture.

Observe, That Tartar being a sulphureous and inflameable Salt, may take the colour of blew, and communicate a red Tincture to the Spirit of Wine.

Its Use and Vertues: It is the most powerful and penetrating Desopilative that is; it produces its effect strongly and gently, so that for the obstructions of the Spleen, the Pancreas, the Mesentery, and the Mesaraick Veins, there is not the like remedy amongst *Chymists* nor *Galenists*; for, by the Spirit of Wine, it dissolves all the most tenacious Viscosities in the little Veins, and pores of the Belly: and by the Salt of Tartar, it carries away all the impurities of the said parts, so that no Soap can cleanse more than this Tincture. Its use is to be dissolved from ten to thirty drops, in some Broth, or appropriated Water, to take every morning fasting for some days.

The Spirit, and fætid Oyl of Tartar.

TAKE a glass Retort luted up to half its neck, if you do make but a little of this Remedy, or if you make a great deal, take a Stone one, fill it up to the neck with good Tartar of *Montpellier*,
either

either red or white, beaten to a fine powder: place your Retort upon a Pot-cover full of Ashes, in the small reverberatory Furnace, if you use but two or three pounds; or in an Earthen Bowl, in a great circulatory Fire, if you use but half a pound: fit a Receiver, and give your Fire by degrees; there will soon come forth a white dark vapour, which will continue all the time of the Operation; the Flegm comes first, then the Tartar takes fire in the Retort, and is in a flame, and from the smoak of this flame, come the Spirit and Oyl. Continue your fire, till there come no more out of the Retort, and till your Receiver be clear, and cold, though the Fire be violent under the Retort: out of one pound of Tartar, you will draw about ten ounces of Spirit, with its Flegm, and two ounces of Oyl; in the Retort will remain four ounces of a black Salt, which you must dissolve in Water, then filtrate and coagulate to use, as the true Salt of Tartar, being entirely devided of its Flegm, Spirit and Oyl, and so being a pure Salt; for the Tartar contains but very little *Feces*, or Earth.

Observe, That in this Operation, we perceive that Tartar is a very sulphureous Salt, since it takes fire in the Retort, and there comes from it a blackish Oyl, stinking, and inflameable, and that the *Feces* do remain black, and burnt in the Retort.

Its Use and Vertues: This Oyl is indifferently stinking and caustick; it serves for Ring-worms, and exfoliation of Bones, or for Farsey in Horses: the Spirit is acid, when rectified, and is good against the Stone and Gravel.

The Spirit and Aromatick Oyl of Juniper Berries.

Put fresh Juniper Berries into a Brass Vesica, till it be half full, fill one third more of the Vesica with common cold water, let them infuse twenty four hours in the Vesica, with a gentle fire, to extract afterwards the better the oily Essence of your Berries, having all this while stoppt the mouth of your Vesica with a Linnen-cloth; take out this cloth, and fit to your Brass body its Mores-head, border'd with a refrigatory, and a moveable Pipe, and do as has been taught in the distillation of the waters of Plants; that which will first come, will be the Aromatick, Balsamick Essence, or Oyl of Juniper Bays, together with a little flegm, or inflegmated Spirit; and then the rest of the flegm will follow. Out of a peck of Berries, you will not have above two ounces of Essence, or Oyl, all the rest will be flegm, or Spirit inflegmatized.

Obs. 1. That because we can draw but a very small quantity of Oyl or Essence, not only out of Juniper Berries, but also out of all Balsamick and Aromatick Leaves, Flowers, Rinds, Barks, Roots, Woods, Berries, and Seeds, therefore we have found the way of using Spirit of Turpentine, separated by three or four Rectifications from its red Oyl, putting three or four ounces upon every peck of Berries; to the end that being incorporated with the Essence of Juniper, it may augment, and encrease the quantity of the
said

said Essence, and yet not change its qualities; but if you should put more than three or four ounces of this Spirit on a peck of Berries, the smell of the Turpentine would predominate, and so spoil your Essence: thus the Provensals prepare and multiply their Essences, and by affording them cheap, make them become common. But I could wish that they would leave off sophisticating them, and sell them as dear as they stand them in, and are really worth; particularly, those Essences that are to be taken inwardly; but the covetousness of those that sell, and the sparing way of the buyers, will never give way to this.

Observe, That when you have put to your Berries the Spirit of Turpentine well rectified; the first liquor that comes is the said Spirit impregnated with the oily Essence of your Juniper Berries.

Obs. 2. That there are two ways to separate the oily Essence from its flegm. The first, is by a glass Tunnel or a Coffin of brown Paper wet before hand with common water; or with the Spirit of your Berries, as it has been said before: only observe, that most of the Essences do swim upon their flegm, and therefore, that in separating them by the glass Tunnel, the first thing that runs out, must be the flegm; and by the Coffin, 'tis also the flegm that goes through; the Oyl remains; which you draw out by making a hole in your Paper Coffin towards the bottom, and holding a glass Vial under to receive your Oyl.

The

The second way is, to put into a glass Matrafs, with a short neck, all the flegm with which the Oyl is distilled ; and then make a rowl of Cotton like the Wick of a Candle ; of which put one end into your Matrafs, to make it touch the said Essence, and let the other end hang into a glass Vial, tied with a pack-thred to the neck of the Matrafs : your Essence will by little and little imbibe the Cotton, and at last run quite through it, till it come out at the other end, and fall by drops into your Vial.

Obs. 3. That the Balsamick, and Aromatick Essence, or Oyl of Juniper, as of all other Balsamicks, and Aromaticks, is nothing but the subtlest part of its Sulphur and Volatil Salt, because of its Sulphur it retains the smell of the Berries, and the yellow colour of their Tincture, and because of its volatil Salt, it retains the taste, and *Acrimony* of the said Berries ; in these two, the Salt and Sulphur, consists the excellence of this simple ; but, because the Oyl of Juniper has but little Salt, therefore it swims upon its flegm, and having been drawn by common water, it has preserved the natural smell, savour, and tincture of the Berries, and thus it happens to all drogues of this nature : for, if you distil them in a naked fire without water, there will come from them a stinking caustick Oyl, as we have taught in the Chapter of the distillation of the stinking Oyl of Cloves. But before this stinking Oyl, we do ordinarily draw from Aromatick drogues by the *intermedium* of water, all their Essence and Balsamick Oyl, which is a kind of Virgin Oyl, being

ing the purest part of them. After its extraction, there remains yet in the *Feces* a thick gross terrestrial saltish Oyl, which we draw without *intermedium* by distillation *ad latus* in a glass Retort luted in a naked fire: and because this Oyl is drawn without *intermedium* in a naked fire, and by the combustion and flagration of the said Drugs, therefore it is black and stinking, and of an ill taste, and much more caustick than the Aromatick Oyl, which contains less of the Volatil Salt, the flegm having shared a good part of the said Salt, with the Oyl; but in the fortid Oyl, the Volatil Salt is as it were shut in, and not carried away by its flegm, whereof it has very little.

If you rectifie your Essence of Juniper in a little glass Retort in a Sand-fire, there will come off a Spirit, which is the Spirit of Turpentine, which you had added to it, and there will remain in the Retort a pure Essence of Juniper as yellow as Gold, and as thick as true Balsam.

Its Use and Vertues: The Essence of Juniper Berries helps the Tooth-ach, Deafness, the Rot of the Bones, the Colick, and the Gravel. Its flegm, or Spirit, serves to prepare the extract of Juniper, as we shall teach hereafter.

The Aromatick Essence of Cloves, Cinnamon, Pepper, Aniseed, Fennel seed, Rosmary-leaves, Thyme, Marjorum, Savin, Jesmin-Flowers, Orange-Flowers, Orange and Lemmon Peels, and generally of all Roots, Barks, Rinds, Woods, Berries, Seeds, Leaves, and Aromatick Flowers,
whose

whose oyl Tincture may be easily extracted in water, are drawn the same way as that of Juniper Berries: but those Woods, Roots, and Barks that are of a thicker and more compact substance, and which will not easily yield their oyl Tincture in water, must be used without water, in a Retort and naked fire, to extract their Oyl, which by consequent must be black, stinking, and caustick, as the Oyl of the Wood, and Bark of Guaiac, &c.

The stinking and black Oyl of Juniper.

Fill a Stone or Glass Retort luted, with the Berries of Juniper, that have already yielded their Aromatick Oyl. Place it upon an earthen Bowl full of ashes, in a small Reverberatory Furnace, there will come abundance of white Vapours, which in the Receiver will dissolve, some into an acid Spirit, and some into a Black Oyl, stinking, and caustick: Out of a pound of Berries, you will have about two ounces of this Oyl, and twelve of acid Spirit, and if you use fresh Berries, that have not served, you will have the double of stinking Oyl: separate by a glass Tunnel the Oyl from the Spirit.

Its Use and Vertues: The Oyl is good for Ring-worms, for the Tooth-ach, the Rot of the Bones, and all old Ulcers,

The Extract of Juniper.

Put into the Brass Vesica, or double glass Vessel, a peck of Juniper Berries fresh gathered and pour upon them distilled water of Juniper three or four fingers high above them: if you have not enough of the said Water, you may supply your want with common Water. Place your Vesica in a circulary fire, or in any of the Rectifying Furnaces with a small fire, or if you use a double glass Vessel, set it in a sand Furnace with a good fire; there let it stand twenty four hours till the tincture be extracted; which pour gently into a Brass Basin, or into an Earthen Pan; place it upon a little Furnace over a naked fire; and make it boil as soon as you can; when it boils, throw into it five or six whites of Eggs with the Egg-shells, and so continue to make it boil, till your whites of Eggs be hard, and loaded with the Faces of the Tincture, then pour off the clarified Tincture from its dregs, and strain it through a Linnen, or Flannel-strainer; hindring your whites of Eggs from coming away with the Tincture into the stone Pan you receive it in; then evaporate it gently in a Sand-Furnace to the consistence of an Extract; a stone Pan is fitter than a glazed Earthen one, because the stone one is much thinner in the bottom, and every where, than a glazed one, and may therefore be sooner penetrated by a sand heat.

Its Use and Vertues : This extract is called the *German's Treacle*, because that in *Germany* they use it frequently as we do here *Treacle*; and it is indeed a great preservative against the *Plague*, and a rare *Antidote* against poisons; it strengthens the stomach : the dose is from a scruple to two dragms.

All extracts of *Berries*, *Leaves* and *Flowers*, are made the same way.

The Laudanum.

TAKE four ounces of good *Opium*, and if it be soft, cut it into pieces with a *Knife*; or if it be dry, powder it in a *Mortar*, and have a care that the powder rising do not at last work upon you the same effect that a double Dose of pills of *Opium* would do. Put this *Opium* without any other preparation into a *Matrass*, and pour upon it *Spirit of Wine*, till it be four or five fingers above your matter, and that your *Matrass* have a third part empty, lest your menstruum, in stead of extracting the *Tincture*, should evaporate and be gone. Place your *Vessel* in a sand *Furnace*, up to half the belly in the sand, fit to it another little *Matrass*, and so form a double *Vessel*; lute them well together with *Paper* and *Glew*, that so nothing may exhale: make a good fire, and let your *Vessel* stand a whole day, the next day separate your *Tincture* from its

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Feces, and pour new Spirit of Wine to them, which also must stand a day, and then be poured off: then for a third time, put new Spirit of Wine to extract the remainder of the Tincture, which done, put all your Tinctures together into a stone Pan. Place this Pan either in a sand Furnace, or in a *Balneum Marie*; if it happen that you are then distilling of Spirit of Wine in the Brass Vesica, you may place your Pan upon the Moors-head, which may serve in stead of a *Balneum Marie*; evaporate gently your Tinctures to the consistence of an extract: If you desire to draw off most of your Spirit of Wine, put your Tinctures at first into a glass Cucurbit, and distil them in a Sand-fire, till they begin to grow thick; and then pour them into a stone Pan, and evaporate them, as hath been said.

Obs. 1. That all those preparations practised upon Opium ordinarily, do rather cleanse it, and purifie it from its *Feces*, than free it from any venomous substance, or malignant quality; therefore if you take of that Opium which is in little even Cakes, neatly environed with Leaves; you may give it without any other preparation at all, only beat it warm in a Mortar, and so form Pills of it.

Obs. 2. That in the belief that most have, that the thin Volatil substance of Opium, is that which causes its malignity, they have studied all ways imaginable whereby to develt it of this Volatil substance; as by drying it over the fire, and so causing this Sulphureous subtile substance to evaporate:

porate: but it is not against reason to believe, that in this exsiccation, or drying, the slegm alone, which is innocent enough, is the thing exhal'd, and that Opium in its whole substance is of a subtile, Volatil, Narcotick nature, and in that consists its Malignity.

Obs. 3. That we use Spirit of Wine for a dissolvant, because it draws much more perfectly this Tincture than any other liquor would, because that Opium is of a thick, glutinous, juicy nature, and Spirit of Wine is the best Dissolver of all Gums: besides, the design being to benumb the senses, the Spirit of Wine, which has the same faculty, is most proper, and being a cordial, is a rare corrective of that malignity which we suppose in Opium. Some are of opinion, that distilled Vinegar would be a fitter menstruum, because they pretend by it to fix a little the Volatil nature of the Opium, and hinder the fumes which make it to arise to the head. To which I answer, with this distinction, That if the design be to appease the Head-ach, and correct *Insomniums*, then *Laudanum* prepared with Spirit of Wine is best; but if it be to stop a Diarrhæa, or Dysentery, or assuage the pains of the Colick, then *Laudanum* prepared with Vinegar is fittest; because the Spirit of Wine carries one to the Head, and the Vinegar keeps the other down in the Belly: but we must have one of these menstruums, if we will extract the Tincture of Opium well: for pure Vinegar smells too much of Vinegar; common Water is not strong enough, because of the vis-

cosity of the Opium, which requires a penetrating dissolvant.

Obs. 4. That if your Opium be very clean, and without Ordure, it will turn almost all of it into Tincture, and leave but very few *Faces*; and so the extract of Opium is but a purified Opium, delivered from all mixture of other things, and devested of some of its own indissolvable terrestricity.

Obs. 5. That in Authors, you meet with an infinite number of descriptions of *Laudanum*; and all the variety is produced from nothing, but from a different mixtion of ingredients; but certainly the best *Laudanum* is the simplest, and such as we have described it. Saffron, Pearls, Corral, Treacle, Musk, Ambergrease, and other ingredients which are added, serving for nothing but to take up more room, and often are quite opposite and contrary to the design intended by giving Opium, so far they are from augmenting the vertue of it.

Its Use and Vertues are, to make those sleep that are troubled with continual waking, and intolerable *Insomniums*, not to be overcome by ordinary *Somniferous* remedies; to assuage great head-ach, to thicken and soften all sharp humours flowing to the breast, to stay loosnesses, dysenteries, and help pains in bilious colicks and dysenteries. But have a care you give not *Laudanum* while the body is full, and has not been evacuated sufficiently by Blood-letting, Clysters, and a moderate diet; nor when there is a copious Fluxion upon the breast, caused by a thick humour, nor when

when there is pain and stopping of breath, nor when the patient is very weak, and has but little natural heat. The dose is from one grain to two, or three, or four at most, and you must never give the highest dose, without having given the first and second without effect; it is ordinarily given in form of a little Pill.

The Tincture of Roses.

Put into a Brass Pot, or into an earthen glazed Pan, four pound, or two quarts of water; set it upon a Furnace in a naked fire, till it begin to simmer, and then put into it two or three spoonfuls of Spirit of Sulphur or Vitriol, and stir it with a wooden *Spatula* to the bottom, then throw into it a good handful of red dry Roses of the year you are in, and stir all together again with your *Spatula*, and so let them stand till the water begin to boil, then take off your Vessel, cover it, and when the matter is cold, strain your Tincture through a Cloth, or a Coffin of brown Paper, it will be as red as a Ruby, and will keep four or five months without danger of corruption.

Obs. 1. That if you did put your Roses into the water, before the Spirit of Sulphur, or Vitriol, you would lose your Spirit afterwards in the Roses, without effect, but the water being sharpened first, is fit to extract and revive the Tincture of the Roses.

Its Use and Vertues : It is a very pleasant cooler,

cooler, being Cordial, and strengthening, and most excellent for the Liver, the Kidneys and the Stomach.

The Milk, or Precipitate, or Magistery of Brimstone.

TAKE four ounces of Flowers of Brimstone, and sixteen ounces of common Salt decrepitated and powdered, mingle them well together: which, that you may the better do, put a spoonful of each at a time upon a Marble stone, and there grind them to an impalpable powder; wet this powder drop by drop with distilled Vinegar, till you have reduced all into the consistence of Pap, or hasty Pudding, then scrape it together with a piece of Horn, and continue doing thus, till all your matter be grown'd, and thus prepared: in the mean time, boil six pound or three quarts of common water, in a Brass Kettle, and when the water boils, throw in all this lump of Matter, and after it has boil'd a little, add to it half an ounce of white Roch-Alom in powder, and stir it with a Wooden *Spatula*, keeping your Kettle on the fire, till all be dissolved in the water, which then will be of reddish muddy colour; and this will happen in half an hours time, then take off the Kettle, let your dissolution cool; in cooling, the Brimstone will precipitate to the bottom in a whitish colour: when

when it is all precipitated, pour off gently the Water, which will be impregnated with the common Salt and Alom: pour common Water upon your whitish Matter to sweeten it, and do so till the Water come away insipid, and that the Matter be entirely freed from the *Acrimony* of the Vinegar, Alom, and common Salt: filtrate that which remains through a Coffin of white Paper, or through a glass Tunnel, as has been taught heretofore; and you have the Precipitate or Magistery of Brimstone.

Obs. 1. That our design being here to open and whiten the body of Brimstone, we use the Flowers of Brimstone; because, that by reason of their impalpability, which they have contracted in their sublimation, they are fitter to be incorporated with common Salt, and to become whiter than common Brimstone would be, which would be very hard to be powdered so fine, as the flowers of Brimstone are already.

Obs. 2. That we use common Salt, to open, calcine, and whiten the body of Brimstone, and we use it decrepitated, and three times as much in quantity as the flowers of Brimstone, to the end it may do its work the better: for the furthering of which we also add distilled Vinegar, which quickens the common Salt, by incorporating it with the Sulphur.

Obs. 3. That for this incorporation we use not a Brass Mortar, because it might black the powder by the attraction of the Tincture of the Metal, but we use a Marble and Stone one, where the finest things may be easily made

finer, so that a hair might be broken upon it.

Obs. 4. That Brimstone alone would never dissolve in water, though never so exactly powder'd, because that being exteriorly of a greasie, oleaginous nature, and its Salt being altogether buried in its own substance, all the ways of being dissolv'd are taken away from it. But if you add to it common Salt, by means of the distilled Vinegar, and the Levigation of it, then all being one body, it happens that the Salt and Vinegar in their dissolution do engage the Brimstone to dissolve at the same time; but then it is necessary that your water should boil some time, to hasten the dissolution of these bodies, and so the Sulphur being a little opened, and calcin'd by the common Salt and Vinegar, does at last afford its Tincture to the said water.

Obs. 5. During the ebullition of the common Salt and Brimstone in the common water, we add a little Alom to whiten and scowre the Brimstone, for Alom is a very dry white Salt, and Brimstone quite contrary, is a very oily mucilaginous one; we do not use *Roman* Alom, because that it is red, and would communicate its colour to the Magistery of Brimstone, which ought to be white by reason of the common Salt.

Obs. 6. That the Brimstone is precipitated all alone without any Precipitant, as soon as the water grows cold, because its dissolution in water was not perfect, and the strength of the Salts being dulled by the coldness of the water, they can no longer retain the Brimstone above water.

Obs. 7. That the Precipitate, or Magistery of
Brim.

Brimstone, is but Brimstone Philosophically calcin'd by common Salt, and distilled Vinegar, and scoured by Alom, then sweetened by washings, and so whitened in form of a powder.

Its Use and Vertues: 'Tis an excellent dryer, or difficative for all Ulcers, and therefore is fitter to make the Balsam of Brimstone, either with Spirit of Turpentine, or with Walnut-Oyl, than ordinary Brimstone, or the Flowers of Brimstone: It is particularly good against all Ulcers of the Lungs, to ripen the Fluxions that fall from the Breast, and help the Expectoration of Flegms, and also to dry away the humours which flow that way. It may be taken either in a spoonful of Syrup, or in some Conserve, or you powder with it a Toast spread with fresh Butter, or Oyl. The Dosis is, from half a dragm to a dragm. And if at the same time you will strengthen the Stomach, and gently loosen the Belly, you add half a dragm of Rhubarb in powder upon your Toast, you may put it into a spoonful of some pectoral Water; but it is not so easie this way, because, by its lightness, it swims upon the Water; and that so, in stead of swallowing it, a good deal will remain in your mouth. You may likewise use it in a *Pomatum*, against the Itch and Scabs, because that this Brimstone hath acquired not only a singular whiteness, but has also lost all its ill smell, which makes all the Unguents and Balsams of Sulphur so stinking and unpleasant: but it would be a dear Unguent, because you can hardly prepare much of this Magistery at once, nor without great pains and cost.

The Magistery of Pearls.

TAke one ounce of Oriental Pearls, which are better, and much dearer than the Occidental; reduce them to a fine powder, in a Brass Mortar, which must be covered with a Leather Cover, in which is a hole to put your Pestle in; put this powder into a Glass precipitatory Vessel, and pour to it Spirit of Sulphur, or distilled Vinegar, or juice of Lemmons, four or five fingers high above the matter; there will presently be caused a little simpring, or boiling, which ended, stir your matter with a stick; then suffering it to settle a little, pour off your Dissolvent, which will be loaded with some part of the said powder of Pearls, and will be as white as Milk.

Pour more Dissolvent upon the matter left, and do as at first, continuing this Operation, till all your powder be dissolved; then gather together all your Dissolutions, in the same precipitatory Vessel, or in another, if you will, and pour upon them great quantity of common Water divers times, to sweeten and wash the said Dissolution, and continue this till the Water have carried away all the Acrimony of the Dissolvent. After you have poured out the last Water, your matter will remain like Pap; which put into a paper Coffin, and there let it dry in the shade upon a Sieve; you will have the Magistery of Pearls, as white as Snow, in little mis-shapen pieces, which
you

you may keep as they are, or else powder them: or if you please, you may at first, before your matter be dry, form them into Trochisks, as has been taught.

Obs. 1. That we reduce the Pearls to a fine powder, that they may be easilier dissolved, by a less quantity of Dissoluant; in the powdering of them, the Mortar is covered, because, that Pearls being small, and round, and hard, would in beating, be apt to leap out of the Mortar, and be lost, if it were not covered.

Obs. 2. That we rather use here Spirit of Sulphur, than distill'd Vinegar, or juice of Lemmon; because it dissolves them easilier than either of the other, insomuch, that one pound of Spirit of Sulphur, will sooner dissolve an ounce of Pearls, than twelve pound of distill'd Vinegar, or juice of Lemmons; besides, that the Spirit of Sulphur is more cordial and pectoral than either of them.

Obs. 3. That the Spirits of Salt, Niter, and Vitriol, are not proper for this Operation, because of their too great corrosive faculties, which would go near to rest in the Magistery, and then we should be obliged to sweeten it so long, till at last the Water of the Lotion would carry away with it a good part of the Magistery. We may say as much of the Oyl of Tartar, made *per deliquium*, in a wet place, or by the dissolution of the Salt of Tartar in common Water; besides, the Spirit of Vitriol would black the whiteness of the Magistery, and the Oyl of Tartar would make it rough to the feeling.

Obs. 4.

Obs. 4. That common Water is sufficient to precipitate the said Magistery, and weaken the Spirit of Sulphur, so as to make it lose its hold: because that the dissolution of Pearls by the said Spirit, having been performed without the help of an external heat, and without any great penetration, there is no need of any strong fight between the Dissolvant, and the Precipitant.

Obs. 5. That the Water of the first sweetning, has a little smell of Ambergreece, if the dissolution be with the Spirit of Sulphur: for, Pearls opened by this Spirit, have such a smell.

Its Use and Vertues: This Magistery is a great Cordial against all venomous Feavers, the Small Pox in Children, the pains of the Spleen; it is likewise good for Consumptive persons, and against Loathings, and desires to vomit, caused by sharp serosities. The Dose is from a scruple to a dragm. It is also a *Fucus*, being mingled with some proper *Pomatum*.

Some brag, with ostentation, of a Water of Pearls; but it can be nothing else but this Magistery, mingled with some Cordial Water, which, if stirred, becomes as white as Milk; for, as for the true Milk of Pearls, which is the Dissolution of Pearls in the Spirit of Brimstone, it cannot properly be called Water of Pearls, because that by reason of its sharpness, it is not potable. The Water of the first Lotion of your Magistery, is excellent to scour and whiten the hands.

The Calx of Oyster-shells.

TAke of the uppermost part of Oyster-shells, what quantity you please, wash them, and cleanse them in warm Water, and let them dry upon a Lettice in the Sun. Then take six or eight Tiles, made in the form of a half-Circle, of such a proportion, as that two of them join'd together, may fill the inward Round of the Laboratory of a Reverberatory Furnace, leaving the space of an inch empty between the sides of the Furnace, and the said Tiles, to give the fire play round about, and betwixt the said Tiles; for, there must be also in two or three places of their Circumference, a Brim of an inch deep, to let the flame in to calcine those matters that shall be set upon them. Place two of these Tiles upon the Iron Bars of the Laboratory, and upon them place three or four other rows of Tiles, loaden with Oyster-shells, one upon another, so as there be half a foot left empty of the top of the Laboratory; then cover your Laboratory with an earthen Pan, turn'd upside down, in whose bottom is a hole: give a great Fire at first, with Wood and Coals, and when it is come to the last degree, continue that twelve hours; the flame passing upon your Oyster-shells, will calcine them, and reduce them into Calx, as white as Snow, and so brittle, as to fall into powder if you touch it.

Obs. I. That we take only the upper part of the Oyster-

Oyster-shells, because that part is whiter and thinner, and easier to calcine, than the lower part.

Obs. 2. That we wash them in warm Water, before we calcine them, that we may scour them, and cleanse them from a certain mucilaginous ordure, which in the calcining would leave a blackness, and spoil the beauty of your Calx. If you desire to scour your Oyster-shells a better way, after you have washed them in warm Water, put them into a stone Pan, and pour upon them distilled Vinegar, one finger high over the matter, and so let them soak one day, then take them out, and dry them in the Sun, before you calcine them.

Obs. 3. That the Calx of Oyster-shells is very Salt, so that by the same method that we draw the Salt of Vegetables and Animals, we may likewise draw this Salt in good quantity; that is, by dissolution in common Water, filtration, and evaporation of your *Lixivium*, till it be dry. This Calx is composed of two substances, viz. of a good deal of white Virginal Earth, and of a good deal of Salt, both fix and volatil; by means of which, the said Oyster-shells are naturally heavy.

Its Use and Vertues: This Calx is most excellent for the Gravel, because of its Salt; it is very opening, and dries up (by means of the two substances it is composed of) all superfluous humidities of the Body. The Dose is from twenty to thirty Grains in some Conserve, Preserve, or Syrup.

The

The Magistery and Calx of Egg-shells.

Take a good sufficient quantity of the shells of Hens Eggs new-laid, and clean, wash them in fair Water, and then dry them, as we do Oyster-shells; put them into a stone Pan, or a glass Bell, and pour upon them Spirit of Vinegar, that is, distilled Vinegar, separated from its Flegm, five or six fingers above the matter; it will presently begin to simmer, and will dissolve the Egg-shells: as soon as it has done, and that by laying your Ear to, you perceive no more noise, then your Egg-shells are dissolved, and the Dissolvant is loaden with its proportion of the dissolved substance, and has lost its Acrimony, and sharpness in the combat. This done, stir your matter with a wooden *Spatula*, and by this agitation, your Dissolution will be turned into white Curds. Let it settle, and then pour off this curdled Dissolution into a stone Glass, or White-ware Vessel; after which, pour on more Vinegar, and do as at first, till all your matter be dissolved. Having put all your Dissolutions into one Vessel, pour upon them a great quantity of clear cold Water; stirring them with a wooden *Spatula*, the Water will become at first as white as Milk, and the Magistery will precipitate to the bottom, then the Water will be clear and sor-rish: pour off this Water, and pour on more, till you have entirely sweetened your Magistery, and

and that your Water come away insipid : put the remainder into a Coffin of white Paper, through which, the Water that remains will filtrate ; and you will have remaining the Magistery of Egg-shells, which you must dry in the shade, upon the bottom of a Sieve.

To make the Simple Calx of Egg-shells; Take a good quantity of the newest, and cleanest, well washed, and dried, bruise them between your hands, and fill them with an earthen Pot unglazed ; which set in a Potters Oven for nine days, and you will have a Calx as white as Snow.

Obs. 1. That you must take new and clean Egg-shells, to the end, that being free from all soiling, and dirt, the Spirit of Vinegar may the easilier corrode them ; for all smoot and ordure in a thing, does dull the action of a Dissolvant ; and if you should calcine them with this ordure upon them, they would grow black, and spoil your Calx.

Obs. 2. That you must use the Egg-shells of Hens, and not of Ducks, Geese, or Turkeys, because that Hens Egg-shells are easilier calcin'd, being thinner, by reason that a Hen is a more temperate Animal ; Water-fowl are hotter, and by reason of their heat, do concoct, and harden their Egg-shells more than other Fowl ; and from thence comes that you must have a greater quantity of your Dissolvant, employ more heat, and spend more time to calcine the Eggs of Water-fowl, than of Hens, whose Egg-shells do also produce a whiter Calx than any of the others.

Obs. 3.

Obs. 3. That we use here Spirit of Vinegar deflegmated, to dissolve the said Egg-shells; for, if it were undeflegmated, it would not be strong enough to corrode the hardness of the Egg-shells; you might use Spirit of Sulphur, but it is too dear; and Egg-shells are not so hard, but that they may be dissolved by a weaker Dissolvant, than Spirit of Sulphur, or Spirit of Niter, which would do well, and produce a very white Calx: but for Spirit of Vitriol, and *Aqua fortis*, they would altogether spoil your Operation, by communicating a blackness to your Calx, which ought to be extream white.

Obs. 4. That the Magistery of Egg-shells is nothing but Egg-shells Philosophically calcin'd by their dissolution in Spirit of Vinegar, then precipitated by the cold Water, into a white Calx, and sweetened by reiterated Lotions, then filtred and dried in the shade. As for the simple Calx of Egg-shells, it is a calcination of them, made by a strong fire of nine days, so as to be reduced into a substance, containing much of white Virginal Earth, and a little Salt. If you wash this Calx, you take from it all its Salt and sharpness, and there will remain an insipid Virginal Earth, of the nature of the Magistery.

Its Use and Vertues: It is a good desiccative which dries up Ulcers without corrolion; therefore it is very good for these Ulcers that affect that Coat of the Eye, called *Cornea*: it is also a very good *Fucus*, for if you rub your hand and face with it, without mingling it with any *Pomatum*, it will so insinuate its self

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into

into the pores, as to produce a rare whiteness.

The Calcination of Venice Talc.

TAKE four ounces of *Venice Talc*, which crumble between your fingers; then take four pound of whole River-pibbles, not of the biggest, nor of the least lize, put into a white Leather Bag, gather'd at each end, both your Pibble-stones, and your Talc, and then shake it, as the Pin-makers do, when they whiten their Pins: do this for an hour, then take out your Talc, and put it into a Silken Sieve, and searce it; take that which could not pass through, and put into the Bag, and so shake it again, as at first; then searce it, and do thus till all your Talc be reduced to a white impalpable powder, like Meal-dust.

Obs. 1. That we use here a Bag of Sheeps-skin, white and clean, and well dressed; because that a Bag of black Leather would black your powder, and so would it do, if it were not very clean, and well dressed; a Linnen Bag would not be fit, because that the finest part of the powder would go through it, besides the danger of its breaking, or wearing out in this agitation.

Obs. 2. That we use River-pibbles, and not Mountain ones, because that the River ones are whiter, harder, and smoother than other, and therefore fitter for this Operation.

Obs. 3. That *Venice Talc* is improperly said to be

be calcin'd by this Operation; for it is nothing but Talc very well powder'd, by this ingenious method, which reduces it into a finer and whiter substance than could be done by a Pestle in a Brass Mortar, or by a violent fire, and tedious calcination.

Its Use and Vertues: It is the finest of all Fucuses to apply, without Pomatum, to the skin, penetrating the pores, and sticking to them by its unctuality or oyliness more than any other. It may be useful other ways too.

The Salt of Crystal Venice.

TAKE one pound of the transparentest Crystal, put it into a Crucible of a reasonable size, and set it in a great reverberatory Furnace for eight hours, till it be melted down; then take off your Crucible, and when it is cold, break it, and take out your matter, which in a Brass Mortar you must reduce to an impalpable powder; mingle this powder with its weight of Nitar, well purified and reduced to powder; put them in a Crucible, which set in the same Furnace, and cover it with a little earthen cover; continue a reverberatory Fire for six and thirty hours together, or till the matter yields no more fumes: then take off your Crucible, and presently break it, and powder your matter in a Brass Mortar, while it is warm: then throw it by spoonfuls into a Kettle full of boiling water, and there let it boil, till

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your Water be half consumed away; filter the said dissolution, while it is warm, through a cofsin of brown Paper: evaporate your filtration by a good fire, either in the same Kettle, or in an earthen-glaz'd Pan, till there remain nothing but a powder, as white as flower, in the bottom of the Vessel; taking care to stir the said powder with an iron *Spatula*, lest by so great a fire it should melt again.

Obs. 1. That we take here *Venice Crystal*, because it is the best.

Obs. 2. That we calcine first the Crystal in a great reverberatory fire, till it be melted, to the end we may so open it, as to be able to reduce it to an impalpable powder, and so make it fit to be calcined by the Niter.

Obs. 3. That we calcine a second time the said Crystal with fine Niter, to open its body better, and so the Niter may communicate to it its fix'd Salt, and that of the body of the Crystal, and of the body of the fix'd Salt of Niter, there result one body, and one Calx.

Obs. 4. That we dissolve this Calx of niter'd Crystal in hot Water, and afterwards we filter it, and then evaporate it to a dry powder, to the end, that by this dissolution and filtration, the Salt of Niter be whiter.

Obs. 5. That this Salt of Crystal, is nothing but Crystal incorporated with the fix'd Salt of Niter; so that it is more properly a Calx, than a pure Salt. The Crystal communicates nothing but its Virginal Earth, and the Niter, nothing but its fixt Salt; and therefore, Crystal containing in its
self

self no Salt at all, this Remedy ought more properly, to be called *Crystal niter'd*.

Crystal is a clear transparent Glass, and Glass is a Crystal less clear, and transparent; the only subject matter of both of them made by Art, is a congealed Virginal Earth, hardened under the form of Pibble Stones, and Crystalline River Sand. This matter cannot be melted, and purified, but by the Salts both of Vegetables and Minerals; and after the fusion, and vitrification of the said Sand, and Pibble Stones, all the Salt is separated, and comes away from it, so as there remains not any in either Glass, or Crystal.

Its Use and Vertues: It is a powerful Diuretick, it drives away Gravel, and breaks the brittle Stones of the Kidney; it dryes up Gonorrhœas.

The Salts of Corals, Pearls, fragment of Rubies, Topaz Stones, Emeralds, Diamonds, and other precious Stones, are to be prepared in the same way; and have the same vertues with the Salt of Crystal, by reason of their calcination, and also the Diuretick and Lithonriptick, or Stone-breaking vertue of the fix'd Salt of Niter.

The Flowers of Benjamin.

Take as much powdered Benjamin, as you please, put it into a Crucible, proportioned to the quantity of your matter, so as it

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Here is the Figure
of your Iron Round.

O be but half full: put your Crucible into a Round Iron, that has two branches on each side, which must be placed upon the second row of Bricks of a circulatory Furnace, so that your Crucible be suspended in the middle of the Furnace, and the fire must strike immediately upon it: fit to the top of your Furnace a great earthen Coffin (glaz'd or unglaz'd) made like a mould for a Sugar-loaf, as broad in the bottom as the Furnace, and in its top must be left a little hole to give the fire air; lute it to the Furnace, give a moderate fire under the Crucible: the Benjamin will rise presently, and totally in dry fumes, which will stick to the sides of your Coffin, in form of a white Snow, or Meal-dust, which will have the odour of your Benjamin, but more exalted and penetrating, because of its attenuation. At half an hours end, take off your Coffin, and with a Feather scrape off all the Flowers, which presently shut up in a Glasse Bottle well stopp'd with Cork, there will remain in the Crucible nothing but oyley black Fæces.

Obs. 1. That we apply the said earthen Coffin to the brim of the Furnace, and not to the brim of the Crucible, lest the heat striking the outside of the Coffin, should make the Flowers once sublim'd, melt and resolve into their first nature.

Obs. 2. That we use here an earthen Coffin, and not a Paper one, as most Chymists do; because, with an earthen one, of the mentioned breadth, we gather a greater quantity of flowers; besides, an earthen Coffin may always serve, whereas

whereas you must change your Paper one, and in that interval you lose many vapours that might have been converted into flowers.

Obs. 3. That the flowers of Benjamin are Benjamin its self melted in a Crucible, then elevated in dry vapours under the form of a white snowy powder, as the flowers of Sal Armoniac; for Benjamin is a Rosinous Gum very dry, and totally volatil, and from thence proceeds, that as soon as it is hot, it rises in vapours, which being dry, are converted into a very white flower or Snow. In this Operation Benjamin loses its red colour, and acquires a very white one, because that of what colour soever the body that is converted into flowers be, the flowers still must be white; because, it is their volatil Salt which predominates over them, and which by consequent must invest them with that colour which is natural to all, and particularly to volatil Salts. The red colour of Benjamin consists in a little gross heavy Sulphur, which cannot be raised but by the violence of the fire, which is not needful in the sublimation of the flowers, but only in the distillation of the Oyl of Benjamin.

Their Use and Vertues: These flowers are most excellent to ripen old coughs, and to help out flegrins, because that they are all Volatil and Balsamick Salt.

The Flowers of Antimony.

Powder one pound of Crude Antimony, or rather of Regulus; put it to an Earthen Cucurbit unglazed; place it upon the two Iron Bars that are in the great Reverberatory Furnace, so that the neck of the Cucurbit be four fingers higher than the top of the Furnace, Lute your Vessel round about to the Furnace, and fit to this Cucurbit an Earthen Pot turn'd upside down, so that the brim of your Cucurbit enter within the said Pot a little: This Pot must have in its bottom an hole as big as an Egg. Lute well the conjunction of these two Vessels, and to the uppermost of them fit another Pot a little less, having also a hole in its bottom, and then put upon this another, yet less, and having a hole of the same bigness, and so fit, as that its brim must go into the brim of the inferiour Pot, then fit to this another less still, and having a hole also, and at last fit another and fifth pot, having a hole of the bigness of your little finger, and having its brim inserted into the brim of the Pot under it, They must be thus less and less by degrees, as the Pyramide grows higher, and have a care that you lute well all the conjunctions of these several Pots. Give at first a violent fire, and continue it to the highest degree for forty eight hours, and all the while keep the little uppermost hole well stop't with some of our Lute; your Antimony will be melted in your Cucurbit, and then

then it will rise, and be sublim'd in dry vapours, which will stick to the sides of the said Pots, in the form of flowers, as white as Snow. In the first Pot they are yellow, in the second red, and in the third white, your Operation having lasted out the time prescribed, put out your fire, and as soon as your Pots are cold, unlute them neatly, and with a feather scrape away all the said flowers, putting white to white, red to red, yellow to yellow.

Obs. 1. That for this Operation the Regulus of Antimony, is fitter than Crude Antimony, because that the Regulus being already separated from its *Fæces*, is all sublimed, and so makes a greater quantity of flowers, both better and purer: for Crude Antimony contains four times as much *Fæces* as it does Regulus, which is the purest part of the Antimony.

Obs. 2. That the Flowers of Antimony are of three colours, the white do contain nothing of the venomous Sulphur of Antimony, and are therefore coloured, of the colour of the Volatil Salt of Antimony: the yellow do contain a little of the said Sulphur, and are therefore somewhat tinged, but the red do abound with the said Sulphur, and are therefore highly dyed.

Obs. 3. That we fit divers Pots one upon another, to receive all these Flowers, of different colours; the white in the first, the yellow in the second, and the red in the last: we leave a hole in the uppermost Pot, to give the vapours a little air, but it is not so big as in the lowermost Pots,

pots, lest the finest flower should be lost through so wide a hole.

Obs. 4. That we give at first a great fire, and continue it forty eight hours, to keep always the Regule or Antimony infusion and effumation, else it would yield no flowers.

Obs. 5. That you must not use stone pots; for the violence of the fire would break them; nor Earthen glazed pots of potters earth, because that the glazing would melt and fix the Antimony; but you must use strong pots of potters earth unglazed.

Obs. 6. That the Flowers of Antimony are nothing but the Regulus of Antimony, or the purest part of the Antimony made Volatil, and sublimed into dry vapours, by the strength of the fire, and so converted into a fine impalpable powder, called Flowers. The white contain only a part of the body of the Regulus, and a good deal of the Volatil Salt of Antimony; the yellow contain a part of the body of the Regulus, and little of the Volatil Salt; and so do the red with a good deal of the malignant Sulphur of Antimony.

Its Use and Vertues: The white Flowers provoke sweat, and sometimes vomiting, and are very good against pestilential Feavers; the yellow do provoke vomiting with violence, and the red much more, and with convulsions; therefore there is no use of them, only they enter in the composition of the Plaster of *Paracelsus*, or of some others, as you shall find in Authors: the dose is, from three to seven grains.

The Flowers of Brimstone.

Put a great Earthen glazed Cucurbit into a small Reverberatory Furnace ; so that between it, and the Furnace sides, there be the thickness of a Crown piece left empty, and the body of your Cucurbit must not be above half sunk into the Laboratory. Then stop with Lute all the upper circumference left empty, betwixt the Furnace and your Vessel, leaving only three little holes equally distant from one another, to give the fire vent. Then line the neck of your Cucurbit without, with slices of Paper, covered with starch, as if it were to fit a head to it; and in stead of a head, fit an Earthen glazed pan; not turn'd upside down, but having a hole in its bottom, of such a capacity as to receive the neck of the Cucurbit. Lute them well together with slices of Paper, starched both above and under the junction of the Pan with the neck of the Cucurbit; fill this Cucurbit with yellow Brimstone in powder till it be half full, and then fit to this earthen pan another of the same metal, which must be whole, and turned upside down upon the first, so as its bottom be half a foot distant from the neck of the Cucurbit, there must be in the bottom of this second Pan a little vent hole, of the bigness of the point of a bodkin, to give air to the vapours of your Brimstone, which else would make your Pan fly about your ears:

ears: give your fire by degrees, and continue a pretty good fire, till there come no more fumes out of the little hole, which for a pound of Brimstone will happen in three quarters of an hours time. Then put out your fire, and let your Vessels cool; when they are cold, separate them one from the other, they will be lin'd with a thick crust yellow and light, and which being bruised between your fingers, is easily reduced to an impalpable powder; scrape off this crust with a knife, and you have the Flowers of Brimstone, out of each pound you will have twelves ounces of Flowers by this method.

Obs. 1. That we use here yellow Brimstone, that is in great rowls; because, that it is the purest and best; separated from its Mineral Earth, and therefore will yield more, and fairer Flowers; the green, or gray Brimstone, shew by their colour that they are not so pure, and by consequent not so fit for this Operation.

Obs. 2. That we use here a glazed Pan, as well because that Brimstone has not force enough to corrode the glazing, as because that being glazed, the Pans are smother, and so it is easier to scrape off your Flowers: a stone Cucurbit would break, and you would hardly scrape off all your Flowers in a stone Pan, whose surface is uneven.

Obs. 3. That a great Reverberatory fire is not necessary in this Operation, because that the Brimstone is easily melted, and when melted, is easily raised in Flowers.

Obs. 4. That the Flowers of Brimstone are nothing

nothing but Brimstone purified from its *Feces*, and sublim'd in dry vapours, by the means of the fire which has melted it, then converted into impalpable yellow Flowers in the sublimatory Vessels.

Its Use and Vertues: These Flowers have the same, but a more exalted Vertue than ordinary Brimstone, because of the Thinness and Tenuity of their substance; interiourly they are used for the same end, as the Magistery or Milk of Brimstone, and exteriorly they are used in Unguents for the Itch and Scab, and for the Farcy in Horses, incorporating it with Oyl of Olives and fresh Butter. But you must be careful to use first general remedies, for Brimstone is so drying, that it presently dries up, not only the Itch and Scab, but also so parches the skin, as to make it incapable of receiving the impurities of the body, and of being transpirable; from which are caused many violent diseases, if the said impurities be not emptied by general remedies, both before and after the use of Brimstone.

*The Rosin or Magistery of
Jalap.*

TAKE as much Jalap as you please, well cleansed from its ordures, and dried in the Sun, then powdered and put into a Matraass. Pour upon it good Spirit of Wine, four or five fingers

fingers above your Matter, and let your Matras have a third part empty: fit to it another Matras to make a double vessel, place it in a sand fire, and there let it stand twelve hours, in which time your spirit will acquire a Tincture as red as Claret Wine: pour off that, and pour on more spirit to the *Fæces*, in twelve hours it will have extracted a new Tincture, which pour off also. If you will, you may pour on more spirit, but if your second Tincture be not high colour'd, it will not be worth your pains, and cost to pour on more Spirit of Wine: gather together your Tinctures to draw out of them, and precipitate either the Rosin or the Magistery. If you will be content to lose your Dissolvent, and so convert all your Tinctures into Rosin, pour them into a great glass Bell full of cold water, and presently your Tincture will precipitate to the bottom, in the consistence of a white Rosin, separate all the liquor that swims above it, and loosen and take away your Rosin, which did begin to stick to the bottom of the Vessel; put it into a glass, either whole or in pieces, which being cold, will grow as hard as Rosin or Colophone.

If you will draw off your dissolvent, and change your Tinctures into a Magistery, put them all into a glass Cucurbit, of such a proportion, as not to be above half full with them; place it in a *Balneum Marie*, and fit to it a head. Give the fire by degrees, and draw off by distillation about half the Spirit of Wine to use in other such uses, then pour the remainder, while it is warm, into a glass Bell, full of cold water; and presently

sently the Tincture of your dissolvant will be precipitated, not into a Rosin, but into a white Curd, which by little and little, in half a quarter of an hours time, will be converted into a white Rosinous powder. Separate by inclination the water, and pour two or three times cold water upon this powder, to separate it well from its dissolvant; then filter the remainder through a Coffin of white Paper, and dry it in the shade, keep this powder or Magistery in a Vial well stoppt.

Obs. 1. That we take Jalap very well cleansed from its ordures, that we may have a fairer Rosin, and more of it, and that it is first dried in the Sun, to the end that its waterish humidity being gone, it may not dull the action of the dissolvant, and so it will be able to extract easilier the Resinous Tincture of Jalap.

Obs. 2. That common cold water precipitates your Tincture into a Rosin, or a Rosinous powder, because that weakening the Spirit of Wine by its quantity, it makes it lose its hold, and so let fall to the bottom that substance which it had seized upon in the dissolving it.

Obs. 3. That the precipitate of Jalap is more properly called a Rosin, than a Gum; because it would dissolve better in oily liquors, as Rosins do, than in waterish liquors, as Gums do.

Obs. 4. That when your Tincture is thrown into cold water, before it be evaporated half away, it then precipitates in consistence of a Rosin,

Rosin, but when it is evaporated half away, then it is precipitated in consistence of a Curd, which comes to a Powder.

Obs. 5. That the Rosin or Magistery of Jalap, is nothing but the Rosinous part of Jalap separated from all the terrestrial part which remains in the Matraass, and from its volatil Salt, which has been dissolved in the Dissolvant, or in the Precipitant.

Its Use and Vertue: It purges by stools without procuring Vomit; it has a gentler way of operating, than pure Jalap taken in substance; because it is develt of its Volatil Salt, which is its sharpest part. The Dose is, from six to twelve grains, or thereabouts, in form of Pills, or *Bolus*, with some Conserve, or some such thing.

The Rosin, or Magistery of Scammony.

TAKE good clean Scammony, & powder it, then fasten a leaf upon a little wooden Square, or Frame, upon the Paper spread your powder, place it over the vapour of Brimstone, which you must throw from time to time into a Chafing-dish full of Coals, and in the mean time stir continually your powder with a wooden *Spatula*, and do not approach it too near the Fire, lest it should melt, and so become a lump, as before;
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for, if such a thing should happen, you would not be able to make the flegm, and the volatil, and sulphureous malignant salts of the Scammony to evaporate, which is the thing you aim at. Your Scammony being thus prepared, you shall extract out of it a Tincture, as red as blood, in a glass double-Matras, with Spirit of Wine; of which Tincture make the Rosin or Magistery, in the same way that you make the Rosin or Magistery of Jalap.

Its Use and Vertues : The Rosin of Scammony, purges gentlier than Scammony in substance, because it is devided of a great deal of its sulphureous volatil Salt, by the burning vapour of the Brimstone. The Spirit of Wine, and common Water have set at liberty, and dissolved the rest of the volatil Salt, and the terrestrial part, or *Faces*, remain in a small quantity in your Matras. The Dose is from ten to twenty grains.

The Cremor Tartari.

TAke four pound of white Tartar of *Montpelier*, in great lumps; wash them well in common cold Water, and then dry them upon boards in the Sun; this done, beat them in a brass Mortar, and searce them to a very fine powder. In the mean time, let there be a pale of Water boyling in a Brass, or Copper Kettle, and into it throw your Tartar by spoonfuls, and so let it boyl for two hours, stirring it continually

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with a wooden *Spatula* ; then take off your Kettle from the fire , and filter your Dissolution while it is warm , through divers Coffins of brown Paper ; evaporate your filtrations in earthen glaz'd Pans, over a naked fire , till by their boyling, there appear a kind of a skin upon the surface of the said Decoction : then take off your Pans, place them in your Cellar, and in three or four days there will be congealed to the bottom and sides of your Pans, great quantity of Crystals as white as Snow, and of a triangular and square Figure. Pour out the Water that remains in your Pans, if it look dirty , keep it, and boyl it again to a consistence of a skin, then congeal it in your Cellar, and so draw out all the Crystals left in it ; dry your Crystals, either in the Sun, or in a dry place ; then gather them, and put them into glass Vials well stop'd : and thus you have that which Chymists call *Cremor Tartari*, or Crystal of Tartar. Out of one pound of Tartar, you have four ounces of Crystals, and twelve of *Faces*.

Obs. 1. That for this Operation, we chuse Tartar of *Montpellier*, because, it is much saltier than the Tartar of any other part of *France*; because, that at *Montpellier* they use great Hog-heads, or rather Tuns, that serve twenty or thirty years, so that there gather to the sides of them, a Tartar three or four fingers thick, and by consequent very saltish ; besides that, the strength of the Wine of those parts, makes their Tartar better ; and at last we chuse white Tartar , because it contains more Salt than the red.

Obs. 2. That we wash well the lumps of Tartar,

tar, before we powder them, to the end, we may cleanse them from a kind of terrestrial dreggs, which remain upon the said Tartar, in form of a powder : by washing, part of this powder goes to the bottom, and part of it makes the Water look muddy.

Obs. 3. That we powder and searce it, that we may extract easilier, and more abundantly, the said Crystal of Tartar.

Obs. 4. That we boyl it in a great quantity of Water, and that a good while, that we may extract all its saltish substance.

Obs. 5. That it is thrown in by spoonfuls, and not altogether, that so the dissolution of its Salt be the better performed, and sooner; and for the same reason the Water is not cold, but boyling hot.

Obs. 6. That we stir it continually with a *Spatula*, else it would remain in the bottom of the Kettle, in a lump, and so being touched by the Water, but on one side, it would not so easily dissolve. Now your *Spatula* must be of Wood, and not of Iron, lest the blackness of the Iron, by the acidity of the Tartar, come off, and spoil the beauty of your Crystals.

Obs. 7. That we boyl our Tartar with Water, in Brass or Copper Kettles, and in earthen Pans, because that the Salt of Tartar is not sharp enough to corrode Brass, Copper, or the glazing of Lead; and therefore, there is no danger it should be loaden, or impregnated with their substance, and particularly, if it be uncalcin'd Tartar, and dissolved in Water.

Obs. 8. That your Tartar having sufficiently boyld in Water, and the Water being impregnated with all its Salt, we filter this dissolution through a brown Paper-coffin, that so we may separate all the terrestrial indissoluble part of it, which will remain in the Coffin of brown Paper; this filtration is performed while the Dissolution is warm, that so the Salt may pass with it, which would go to the bottom, in form of a white powder, if the Dissolution were cold.

Obs. 9. That to crystallize the Salt of Tartar uncalcin'd, and dissolv'd in Water, you must evaporate above half of your Water, till your Salt begin to coagulate; which you observe, by that little skin, that gathers upon the surface of your Water; then by taking off your Vessels, and placing them in a cold place, as the Cellar, the Salt is formed into Crystals, and is freed from the Water, which kept it in dissolution. If you had continued your evaporation, till your matter had been dry, there would have remained in the bottom of your Vessel, a white Salt in powder, but it is much more pleasant, to have it in the form of Crystals.

Obs. 10. That the Crystal of Tartar, or *Cremor Tartari*, is nothing but Tartar scoured, and whitened by Lotion, pulverisation, boyling in the Water, filtration, evaporation, and coagulation, or crystallization made in the Cellar. It is composed of two substances; one is saltish, the other is terrestrial: The first, dissolves in any Water; the second, only in warm Water: and as soon as the Water is cold the Crystal frees its self

self from it, and coagulates in the bottom, in form of a white powder, if there be a good deal of Water; but, if there be but a small quantity of Water, it coagulates into white Crystals, sticking to the sides of the Vessel.

Its Use and Vertues: It is a great Aperitive, Desopilative, and Diuretick. It purges gently sometimes, but its principal effect is always by way of Urine. The Dose is, from half a dragm, to two, taken inwardly in broth: It is often mingled with Opiates, and also with purgative Portions; but, then you must swallow them more than luke-warm, else it would coagulate, and remain in the bottom of the Cup, or Glass: some also do dissolve of it in Clysters, to the weight of two dragms, or half an ounce.

*The Cremor Tartari Calybeatus, or
the Steel'd Crystal of Tartar.*

TAke four pound of white Tartar of *Montpellier*, wash'd, dry'd, powder'd, and sear'd, as has been said in the precedent Chapter. Mingle with it two ounces of the *Crocus*, or Saffron Aperitive of *Mars*, or Iron; throw this mixtion by Spoonfulls into a Kettle full of boyling Water, stir it continually with a wooden *Spatula*, and boyl your Water half away; then take off your Kettle, filtrate the rest while it is warm, put your Filtration into earthen Pans unglazed,

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and evaporate it in a gentle fire, to the *Pellicule* as you do in the Salt of *Saturn*; then set it in a Cellar to congeal, and in three or four days, there will strike to the bottom; and sides of your Pans, a good many clear Crytals of a fine green colour, round in figure, and a little sharp; separate by inclination the remainder of the Liquor of the Pans, and evaporate it again, and set it to crytallize, as the first; set your Crytals in the Sun, by placing your Pans on one side, that all the Liquor may run from them; when your Crytals are very dry, loosen them with the point of a Knife, and put them into Vials to keep: let them be well stop'd; for, if the air come at them, they will dissolve again, or at least grow wet, and lose their colour.

Obs. 1. That you must take the *Crocus Martis aperitivus*, or opening, and not the astringent; because, that the Astringent is devested of its Salt. Now here we pretend to the proper Salt of *Mars*, and to mingle it with the Salt of Tartar. By this Mixtion the Crytal of Tartar acquires the green, colour of the vitriolick Salt of *Mars*, and the faculty of dissolving in cold Water. If instead of the Saffron of *Mars*, you had added the Salt of Tartar calcin'd, you would have made Chrytals of white Tartar dissolvable in cold Water; for, either of those two Salts of *Mars*, or calcin'd Tartar, would prove a Corrective to the terrestrial and indissolvable substance of the *Cremor Tartari*.

Obs. 2. That we evaporate the Dissolution of these two Salts by a gentle fire, that we may keep in their volatil Salts, which by their mixtion,

do whet and attenuate one another, and so are disposed to fly away; which, if they did, then your Crystals would not so easily crystallize.

Obs. 3. That the Steel'd *Cremor Tartari*, is nothing but the *Cremor Tartari* incorporated with the vitriolick Salt of *Mars*, by their dissolution in Water, the evaporation to a *Pellicule*, or skin, and the crystallization in a cold Cellar.

Its Use and Vertues: 'Tis a more powerful opener and desopilative, than the *Cremor Tartari*: It is most excellent against the Yellow Jaundice, the Green Sickness, and to provoke the Monthly Courfes, if stopped. The Dose is, from half a dragm to a dragm, in some Broth, or appropriated Water.

The Virginal Milk of Benjamin, and Storax.

TAKE of Benjamin and Storax, of each two ounces, reduce them to a fine powder, and put them into a Matraass, pour on Spirit of Wine, so as the matter be covered four or five fingers deep, with the said Spirit; let your Vessel stand in a cool place, for two or three days; in this time the Gums will be dissolv'd, and will colour the Dissolvant with a red transparent colour, like a Ruby, and withal, will communicate to the Dissolvant their smell most perfectly: pour off this Tincture, and keep it in a glass Vial for your use: when you intend to make of it

Virginal Milk, put about a spoonful of this Tincture into a precipitatory Vessel, as a glass Bell, &c. and pour on it, about a pint of cold Water, your Tincture and VVater will be both as white as Snow, and your Tincture will be incorporated with the VVater, without precipitating to the bottom.

Obs. 1. That the Benjamin and Storax, containing but very little of terrestrial impurities, do dissolve almost totally in Spirit of VVine, which by the thinness, penetration, and evenness of its substance, dissolves easily, and without heat, the said Rosins.

Obs. 2. That the red Tincture is turn'd as white as Milk, when it is dissolv'd in three or four times its quantity of VVater; because, that the common VVater does force the Spirit of VVine which was impregnated with these Bodies, to let go its hold, and so it does to all Dissolvants,

Its Use and Vertues: This Virginal Milk serves to refresh and whiten the skin; it is excellent against all rednesses, inflammation, and Erysipela's.

The Precipitate, or Magistery of Silver, or Luna.

TAKE one ounce of the purest Silver, beaten into Plates as thin as Paper; then cut it into little bits, and put it into a Matraass with a long neck, pour upon it three ounces of *Aqua fortis*, made with Niter and Alom; and so let your Silver dissolve in it, without heat; pour out your Diffolution into a glass Bell, and pour upon it a quart of Sea-water; the Silver will presently turn into white Curds; which in a small time, by little and little, will precipitate into a powder, as white as Snow, and as shining as pieces of Diamonds; separate by inclination your Sea-water, impregnated with the *Aqua fortis*, and pour on more cold common VVater, so often, till at last it come away without any saltish taste, which is a sign that your powder is dulcorated; filter the remainder through a Coffin of white Paper, and let it dry in the shade; you will have a Calx Precipitate, or Magistery of *Luna*, most admirably fair, and white, and glittering; put it into a glass Bottle well stop'd, and keep it for your use.

Obs. 1. That you must take the finest, purest Silver; for, if there were the least mixtion of *Venus*, or Copper in it, the Magistery, instead of being white, would be green, like Vitriol.

Obs. 2. That you must take *Aqua fortis*, made on purpose with pure Niter, and Alom; for, the Spirit

Spirit of Niter alone, would be too sharp, and your Magistery would hardly be sweetned from all Acrimony, which might, if there remain'd any, corrode and spoil the face it is laid upon. As for common *Aqua fortis*, made with Niter and Vitriol, it would be worse; not only because it is sharper than Spirit of Niter, but also, because of its having Vitriol amongst it, which would make your Magistery black. Alom is much fitter to be added to Niter, because it has little Acrimony, and great quantity of Flegm; insomuch, that Alom is nothing but a part of Virginal saltish Earth, and a great deal of Water congealed, and crySTALLIZED together.

Obs. 3. That Sea-Water precipitates the Calx of Silver, for the Reasons which we have said in the Chapter of the Magistery of *Bismuth*.

Obs. 4. That the Magistery of Silver, or the Moon, is nothing but a Philosophical calcination of Silver, by the means of *Aqua fortis*, precipitated by Sea-Water, and sweetened by frequent Lotions.

Its Use and Vertues: It is the best of all Fucuses, according to the esteem and opinion of Ladies; because of the choice of the matter, and of the Dissolvant; and also, because it is dearer than the others; the great price of things, serving often to create an esteem for them.

The Tincture of Gold, or Aurum Potabile.

TAKE a hollow branch of Cryſtal, as thick as your finger, and two or three foot long, thruſt it half way into warm Aſhes, to heat a little, and ſo diſpoſe it to endure a greater heat, without flying; then preſent it, by little and little, to the fire of a reverberatory Furnace, then put it quite into the Furnace, and hold it in the middle of the flame, to make it grow red and ſoft; there muſt be over againſt the Fire-room-door, a hole, by which another muſt put in the end of a little Cryſtal Twig, made as ſmall as a thread, which he muſt heat likewiſe, and ſoften; and when it is ſoft, he muſt faſten it to the end of the great branch, which you hold; then let him draw this Rod, or Twig to himſelf, and the branch will follow, and ſtretch like Paſte, and you may make as many Rods, and as ſmall as you pleaſe of it.

Having made divers little Rods of Cryſtal by this method, you muſt guild them one after another with Ducket Gold in Leaves; buy therefore a Book, containing ſix and twenty Leaves of Ducket Gold, take one of theſe Leaves, and ſpread it upon a Cuſhion made of Calves Leather, and with a ſharp Knife, cut it into little ſlices, of half a fingers breadth, then wet with ſpittle one end of your Cryſtal Rods, and apply it to one of theſe ſlices, turning it upon the
Cuſhion

Cushion, to make the Gold stick ; then continue wetting it a little higher, and apply it to another slice of Gold, and do so till you have gilded all your Crystal Rods, one after another, using a little white Cotton, to press your Gold, and make it stick. This done, put them to dry in an Oven, after the Bread is taken out ; when they are dry, apply another lay of Gold to them, and then dry them ; do thus seven times, so that each Crystal Rod be covered with seven lays of Gold.

Then powder grossly all of them gilded and dried, and put them into a Crucible, which set in a Wind-Furnace, give a great fire, and continue it, till your matter be melted ; then take it out, and powder it, it will look yellow : let your powder be very fine.

Put this powder into a long-necked Matraass, and put to it a dragm of the Salt, called the *Salt Anatron*, or the Salt of Glas ; it is the fix'd Salt which sticks to the bottom of the Kettles, where Salt-peter is boyled : if you can come by none of this *Salt Anatron*, put in common Sea-Salt decrepitated, and pour upon it also Spirit of Salt, well rectified, and devided of its flegm, four or five fingers above the matter : this Spirit being whet and sharpened by the addition of the *Salt Anatron*, or common Salt, will corrode and dissolve the said Gold, in three or four hours, without fire, and in this action will lose its force ; so that it will have no Acrimony left, but only a pleasant acidity, and it will be impregnated with the Tincture of Gold ; in the mean time, it will
not

not operate at all upon the Crystal, which will remain in the bottom of your Vessel, in its own substance, fit for other uses, as we shall teach hereafter. VWhen you see your Spirit well tinged with the colour of Gold, then pour it off, and put to your matter the like quantity of the *Salt Anatron*, or of Sea-Salt decrepitated, in its place, and as much rectified Spirit of Salt, to draw off another Tincture; and do so as long as your Spirit does draw any Tincture, and till it come away as sharp as it went in. Put your Tinctures together, they will make a Potable Gold, as yellow as a Topaz, and of no taste. If you put them into a small glass Body, with a Head of the same, in a Lamp-tire, and draw off by Distillation half your Dissolvent, there will remain a Tincture of Gold, more lively, and acid, and also potable.

Obs. 1. That we use Crystal as an *intermedium*, for Gold, which without any *intermedium*, could not be calcin'd, but would melt: and if it be not calcin'd, then it will not dissolve in so gentle a Dissolvent, as Spirit of Salt. Now there is no *intermedium* better than Crystal, for all other Metals would melt, and mingle with Gold; Minerals, besides their metallick qualities, would also impart to the Gold the Corrosion, and Acrimony of their Salts: but, Crystal containing but a very little Salt, and a great deal of Earth, it does not mingle, nor communicate to the Gold any Acrimony, and yet by the driness of its substance, it hinders the melting of Gold, and so furthers its calcination.

Obs. 2.

Obs. 2. That the Gold and Cryſtal being calcin'd, are powder'd; becauſe, that ſo the Gold is eaſier to be diſſolved by ſo gentle a Diſſoluant, as Spirit of Salt.

Obs. 3. That we uſe Spirit of Salt to diſſolve Gold, already calcin'd; becauſe, that though there be more powerful Diſſolvants, (as *Aqua fortis* made with fine Niter, and deſlegmated Vitriol, or Colcothar; as alſo, *Aqua regalis*, which is made with Niter, Vitriol, and Salt Armoniack) yet theſe Diſſolvants are too corroſive, before and after the diſſolution of the Gold to be potable, and the Spirits of Vitriol, or Sulphur are not ſharp enough; ſo that the Spirit of Salt alone, has force enough to diſſolve Gold, and make it potable after its diſſolution; and yet this Spirit muſt be rectified too, and whet and ſharpened by the addition of *Salt Anatron*, or common Salt decrepitated.

Obs. 4. That the Cryſtal which remains in the Matraſs, after the diſſolution, muſt be well dulcorated, or ſweetened, and then may ſerve for a Dentritice, or cleanſe Teeth, by wetting a corner of a Towel in common Water, and then putting it into the ſaid powder, and with it rub your Teeth: or, it may ſerve to make the Salt of Cryſtal, as we have ſaid already.

Obs. 5. That the Gold is potable, but as long as it remains diſſolved in the ſaid Spirit of Salt, and that you muſt not mingle it with any Liquor whatſoever; for, if you do, it will precipitate your Gold into a yellow powder; and ſo you will loſe your Tincture.

Obs. 6.

Obs. 6. That potable Gold, is nothing but Leaves of Gold calcin'd with Cryſtal, and diſſolved in rectified Spirit of Salt.

Its Uſe and Vertues : It cannot be doubted, but that this Potable Gold has the vertues of Spirit of Salt, that is, it is excellent againſt peſtilential and putrid Feavers, to purifie the Blood, drive out Gravel, whiten the Teeth ; and alſo, it may be ſaid to have the vertue of the Water of Pearls, and being thus prepared, conſumes all ſharp humors in the Body, as Pearls thus prepared do : ſo that it is not without reaſon, that this Remedy is eſteemed as good againſt Cancries and venomous Ulcers, and peſtilential Feavers. The Doſe is, fix or eight drops in ſome Broth, or appropriated Water : and for the Teeth, you may put a ſpoonful of it in two ſpoonfuls of Roſe-Water, or Flower of Orange, or Jaſmin. It has likewiſe the vertue of preſerving your Wine in your Cellar for many years, by putting about half a pound of this Potable Gold into a Hogſhead of Wine ; but except it be very rare Wine indeed, and that you deſire to have it of many years, it would coſt you more than it would be worth.

*The Salt of Vitriol, or the Cryſtals
of Venus.*

TAKE Verdigreece, or Spaniſh Green, as much as you pleaſe, powder it in a Braſs Mortar, and ſtop your Noſe cloſe, leſt the
venomous

venomous vapours should poyson you ; put it into an ample Matrafs, with a long neck, so that it be three quarters empty ; pour upon it good distilled Vinegar, so that your Matrafs be almost quite full, place it in a Sand-fire, and by sitting to it another Matrafs, make a double Vessel of it, in twelve hours time you will have a blew Tincture, like true Turquoises ; pour off this Tincture into a stone Pan ; pour on more distilled Vinegar upon the *Faces*, to extract a new Tincture ; and do this till there remain nothing but brown *Faces* in the bottom of your Matrafs ; then take a glass Cucurbite, and apply to the bottom of it a leaden, or iron Ring, tied to it by four pack-threads, which are fastened to a pack-thread tied about the body of the Cucurbite ; put all your Tinctures into this Cucurbite, which set in a Kettle full of Water, where it cannot swim, nor lean more on one side than the other, because of the weight it has at the bottom ; draw off the distilled Vinegar, till you see that there is a thin skin begun to be formed upon your Tincture ; then take out your Cucurbite, and set it in a cool place, as a Cellar : in three or four days there will be in the bottom, and upon the sides of your Vessel, divers Crystals of a lovely blew-like Turquoises.

This done, pour off by inclination, all the Water that is not congealed, and evaporate it in a Cucurbite, in a *Balneum Marie*, as has been said already ; reiterating the evaporation, and crystallization of the said Water or Tincture, till there remain very little of it.

Then

Then put together all your Cryſtals into another Matraſs, pour upon them diſtilled Vinegar, enough to diſſolve them; you may make uſe of that Vinegar, which you drew off from your firſt Tincture; place your Matraſs in a Sand-fire, and make a double Veſſel of it; in three or four hours time, the diſſolution of your Cryſtals being done, filter it while it is warm through a brown Paper, and receive your filtration in a ſtone Pan; there will congeal in this Pan, great quantities of Cryſtals, which will change their blew colour, into a green one, like Emeralds, and half tranſparent. Pour off by inclination the Water that ſhall not congeal; then ſet your Cryſtals in the Sun, to dry them well, and when they are well dried, take them out of the Pan, and put them into a glaſs Vial, well ſtopp'd, to keep for your uſe.

Obſ. 1. That to extract the Salt of *Venus* or Copper, we uſe Verdigreece; becauſe that Verdigreece is nothing but *Venus* diſſolv'd, extracted, and calcin'd Philoſophically by the acid Spirit of Wine: Now it is impoſſible to extract the Salt of any Body, before it be calcin'd; and as for Metals, they cannot be calcin'd otherwiſe than Philoſophically, that is, by the corroſion of ſome acid Spirits; for fire, though never ſo violent, can but melt them, and evaporate ſome part of them.

Obſ. 2. That we uſe here diſtilled Vinegar, to diſſolve Verdigreece, and extract its Tincture and Salt; becauſe it contains but little of a tartareous Salt, or Salt of Tartar, which being joined with

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the

the Salt of *Venus* cannot hurt; but *Aqua fortis*, *Aqua regalis*, the Spirit of Niter, Brimstone, or Vitriol, contain a great deal of corrolive Salt, which would alter the Salt of *Venus*, and make it corrolive, being joyned with it; for, it cannot crystallize without them.

Obs. 3. That you must use here glass and stone Vessels, and not of vernish'd, or glaz'd Potters Earth; because, that the sharpness of the Verdigrice would corrode the glazing, and impregnating its self with Lead, would spoil the brightness of your Crystals; and if your Vessel were unglazed, then the Verdigrice having, by its dissolution in distill'd Vinegar, acquired a singular sharpness, and penetration, would intinuate, and lose its self in the pores of the Vessel.

Obs. 4. That we distil, and evaporate the Tincture of Verdigrice, in a gentle heat of *Bal-neum Mariae*, lest in a greater heat, the sulphureous part, and volatil Salt of *Venus* should exhale, and be gone, since it is in that sulphureous part, that consists the greatest vertue of this Remedy, and it is it, that contributes most to the crystallization.

Obs. 5. That the Crystals of *Venus* change their blew dark colour, into a green transparent one, by the means of reiterated dissolutions, and crystallizations; which Operations, do purifie these Crystals from their blew terrestreity; and that the true colour of the purified Salt of *Venus*, is to be as green as an Emerald.

Obs. 6. That the Crystals of *Venus* are nothing else, but the Salt of *Venus* extracted from the
Calx

Calx of *Venus*, which is Verdigreece, by a gentle Dissolvant, which is distilled Vinegar: then after evaporation of half of the Dissolvant, crystallized in a cool place.

Its Use and Vertues: It is a powerful Diuretick, and Desiccative, and therefore most excellent against Gonorrhæa's. Its Dosis is, from three to six grains, in a Pill of Turpentine, that has been boyl'd to a consistence of *Colophone*, continuing to take of it three days together. There may be also drawn out of it a Spirit, fit to precipitate all sorts of Dissolutions.

The Crystals, or Salt, or Vitriol of Mars.

TAKE five or six pound of the opening Saffron of *Mars*, called commonly, *Crocus Martis aperitivus*, as it has been described in this Book; powder it in a Mortar, and searce it through a filken Sieve, then throw it by spoonfuls into a Kettle of ten or twelve quarts of boiling Water, stirring it continually for two hours together, with a Ladle, or *Spatula* of Iron, till the Water be half boyled away; then take off your Kettle, and filtrate your Liquor while it is warm, through a brown Paper; evaporate your Filtration in a Sand-fire, to the *Pellicule*, in stone or glass Vessels, and afterwards set them in the Cellar; in two days there will be a good many green transparent Crystals, sticking to the sides

and bottom of your Pans. Pour off by inclination the Water that is not congealed, and evaporate it again, and crySTALLize it: then gather all your CrySTals together, and put them into a glass Vial well stopp'd. As for the powder of *Mars* devested of its Salt, which will remain in your Coffins of brown Paper after filtration, dry it, and keep it to make the Astringent, or binding Saffron of *Mars*.

Obs. 1. That to extract the Salt of *Mars*, we take the opening Saffron of *Mars*; because it is nothing but *Mars* calcin'd by the means of Brimstone, and a Reverberatory fire. Now, it is not possible to have the Salt of *Mars*, if it have not been first calcin'd: and it cannot be calcin'd by fire alone, which would only melt it, as it does other Metals; you must therefore calcine it Philosophically with Brimstone, whose Salt and Spirit corrodes and calcines *Mars*.

Obs. 2. That to extract the Salt of the *Crocus Martis aperitivus*, it is enough to powder and searce it, and throw it into a great quantity of boiling Water, which has force enough to draw to it the Salt of the Calx of *Mars*, or *Crocus Martis aperitivus*.

Obs. 3. That the CrySTals of *Mars* are of a green transparent colour; because that *Mars* is drawn out of a vitriolick Earth, which indeed does contain nothing but pure Vitriol, which by the violence of fire, is changed into a metallick Body, the hardest and blackest of all Metals; and being opened by the Agents and Dissolvants of Chymistry, doth communicate this colour.

Obs. 4.

Obs. 4. That if you do not keep these Crystals in a Vial well stopp'd, as soon as the Air comes to them, they will be covered with a kind of white Meal, which will spoil their transparency, and greenness; and that *Mars* being a very dry Metal, and for this reason, the hardest and less flexible of all the Metals, it easily dries, and is converted into this white mealy substance.

Obs. 5. That these Crystals of *Mars*, are nothing but the Salt of *Mars*, extracted out of the opening Calx of *Mars*, by the sweetest of all Dissolvants, which is common Water, boiling hot, then evaporated, and crystallized.

Its Use and Vertues: It is an opener, or aperitive, much stronger than the opening Saffron of *Mars*, because it is the pure Salt of *Mars*, separated from its terrestrial indissolvable parts; and is therefore excellent against the Green Sickness, the Yellow Jaundice, and to provoke the Monthly Courses. The Dose is from a scruple to a dragm in Broth, or some Syrup: you may add to it a dragm of the Extract of Savin, to augment its vertue.

The Astringent, or binding Saffron of Mars.

TAKE the powder of *Crocus Martis aperitivus*, which remains in the Coffin of brown Paper; after you have filtred the Dissolution of the said *Crocus Martis aperitivus* in common

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Water,

Water, which powder will be then devested of all its Salt of *Mars*: fill with it a Pot of Potters Earth unglazed, place this Pot in the Furnace of the great Reverberatory Fire, and give the Fire for eight and forty hours; then take off your Pot, and break it, and while it is hot, powder your matter in a Brails Mortar, and then set it in the air upon a Board, or upon a Marble Stone; when it is quite cold, searce it through a silk Sieve, and keep it in wooden, or glasse Vessels.

Obs. 1. That though the said powder of *Mars* be devested of its Salt, yet we reverberate it a great while, that so all its Salt may evaporate, and the Remedy be the more Astringent, which is the only intention it is to answer.

Obs. 2. That we use not a glaz'd Pot, lest in the reverberation the glazing should melt by the violent heat of the Fire, and mingle with the *Mars*.

Obs. 3. That we powder the said *Mars*, while it is warm, that we may powder it easilier, and make a finer powder of it.

Obs. 4. That we searce it through a Silk Sieve, that so we may make it so impalpable, as that in passing through the Stomach, it leaves no hard gravelous substance, that might offend the Coats of the Stomach, or Intestines.

Obs. 5. That the Astringent Saffron of *Mars*, is nothing but *Mars* calcin'd Philosophically, by Fire and Brimstone, devested of its Salt, by its dissolution in common Water, then reverberated,

berated, powdered, and searfed, to be reduced to an impalpable powder.

Its Use and Vertues: It is a powerful Astringent inwardly taken; and exteriorly applied, it stops the Bloody Flux, the Hepatick Flux, and all Diarrhæa's. Its Dose is, from half a dragm to two, in some Conserve, or Preserve, or Bolus: It stops likewise bleeding of the Nose, by powdering some Cotton with this powder, and filling the Nostrils with the Cotton thus powdered.

A Little

TREATISE

OF

CHYMISTRY

OR,

An Abridgement of the precedent
TREATISE.

Of the Hermetick Lute.

TAke of Potters Earth, Sand, and Horfe-
dung, equal quantity of each, and knead
them together with a little Water, or
Whites of Eggs, to a soft lump: this
serves to make Bricks in a Mould, to cement your
Bricks in the structure of your Furnaces, to lute
your Vessels, and to fill up the holes, chinks, and
cracks of your Furnaces and Vessels.

Of

Of Hermetick Furnaces.

A Furnace to distil, with the Vesica covered with its Refrigeratory, Waters, Aromatick Essences, and Spirit of Wine; it has an Ash-hole, a Fire-room, and a Laboratory; the Laboratory must be as high as the Vesica, and half a finger in its circumference wider than the Vesica; you must put Wood and Coals into the Fire-room.

A Furnace for a violent Reverberatory Fire, serving to draw the Spirits, and Oyls of Minerals, and Metals, in a glass or stone Retort luted, or in an iron one: it is like the precedent, only the Laboratory must be of the height of the Retort; and that there must be a gap to put the neck of the Retort out at, and must have an inch in circumference, more than the Retort; then in the Operation, you must add to it three Layes, or Rounds of Bricks, lesser still towards the top, and fill the holes with pieces of Brick or Iron: Wood and Coals are the materials of your Fire.

A Furnace for a Circulatory Fire, and of Suppression, serving to distil the Flegm, Spirit, and Oyl of Seeds, Berries, Woods, Barks, Roots, &c. in a stone or glass Retort luted: it is built like the precedent, only the Ash-hole, and Fire-room are not separated from one another, and that you must cover the top of your Furnace with an earthen Pan, that has a hole in its middle: Wood and Coals are your fuel.

A furnace for a Wheel Fire, serving to sublime the Salts of Minerals and Metals, in a Matraass of Glas luted : it is made of two Rounds of Bricks, without Cement or Lute, leaving a little space between the Bricks. You must put an earthen Bowl in the middle, to set your Matraass on, and kindled Coals round about it.

A Furnace for a Circulatory Fire, and of Suppression, serving to calcine and melt Minerals, and Metals, and to calcine Vegetables and Animals in Crucibles, or great Pots of the same Earth : It is made of two Rounds of unluted Bricks, set at a little distance one from the other, that the air may come in ; it is enough to make it two fingers above the Crucible, when set in its earthen Bowl : you must lay round about as high as the Vessel, kindled Coals.

A Furnace for a Circular Fire, and of Suppression, serving to distil Oyls, acid Spirits, and Flegms of Gums, Rosins, VVax, in a glass Retort luted. It is built as the precedent, only there must be a place for the neck of the Retort to come out at. The same Materials of VVood and Coals for your Fire.

A Furnace to distil in a *Balneum Mariæ*, or *Mariæ*, or vaporous Bath, all sorts of Liquors, to evaporate the Extract of Salts, and for all other Operations. It is made of divers Layes of Bricks luted together ; there is in it an Ash-hole, a Fire-room, and a Laboratory, and in the top of the Laboratory three little gaps, to give a passage to the Flame. You must put your Coals in the Fire-room, and a Kettle with a brim in your Laboratory.

A Furnace for the Fire of Ashes, or Sand, wet or dry, serving to distil and rectifie all sorts of Liquors, and for Infusion, Digestion, Tinctures, Evaporation, &c. It is made of an Oval Lay of Tiles, and three other Oval Layes of crooked Bricks, cemented with our Lute, Plaster of Paris and Water : so that the Oval Rounds grow wider, as they rise higher, and that there be in one end of the Oval a double door, for the Ash-hole and Fire-room ; then building a square about the said Oval, with broken Tiles and Mortar, add one perfect Round of Bricks, leaving a little gap over against the Fire-room-door ; then apply your iron plate, and add two or three Rounds of Bricks more to make the Laboratory ; at last, put upon the said iron Plate, Ashes or Sand, an inch thick.

A Wind-Furnace for violent Fusions, is made by building a Furnace of a Circular Fire, and Suppression, upon the bottom of a Hogshhead ; in which bottom, there is a hole as big as ones head, which is covered with a Grate, well cemented with Lute and Plaster. The Hogshhead must be knocked out at the lower end, and elevated from the ground about half a foot.

Of Spirit of Wine.

TAKE as much Brandy as you please ; put it into the Copper Vatica, placed in its proper Furnace, fit to it its cover, or *Moors-head*, bordered

dered with its Refrigeratory, then fit to the nose or pipe of the said cover, and to the pipe of Copper, that passes through two Hogheads full of Water, a little moveable pipe to joyn them together. Light the Fire in the Furnace that serves to distil Aromatick Essences, the Spirit will come in a stream.

This Spirit of Wine is not good to be taken inwardly; if it be not rectified in a glass Cucurbite and Alembick; the first is excellent for burnings, the second is proper to dissolve Gums and Rolins, to take inwardly, and to draw their Tinctures and Extracts.

Of Salt of Tartar.

TAKE of Tartar and Niter powdered, equal parts, mingle them, and having put them into a glaz'd earthen Pan; set fire to them with a red hot Iron, stirring them continually, till the Niter be consumed, and the Tartar calcined. It is aperitive and diuretick. The Dose is, from one to two dragms.

The Regulus of Antimony.

MINGLE three pound of Male Antimony, with one pound and an half of common Niter, as much of Tartar, four ounces and an half of powdered

dered Charcoal; put this mixtion by spoonfuls into a pot heated red-hot, in a Furnace of a Circular Fire, and Suppression, till your pot be full; then encrease your fire, stirring your matter from time to time with a stick, which you must not put to the bottom, till all be melted; then take off your pot, and when it is cold, break it, you will find in the bottom the *Regulus*, and the *Faces* on the top. Of it, is made *Vinum Emeticum*, everlasting Pills, and Cups, and the Diaphoretick, its *Faces*, serves to make the Golden Sulphur Diaphoretick.

*Of the Liver of Antimony, of which
is made the Crocus Metallorum.*

Mingle one pound of Male or Female Antimony, with half a pound of common Niter powdered, put them by spoonfuls into a Crucible, or pot of the same Earth, heated red-hot in a Furnace of a Circular Fire, and Suppression, covering your pot at each spoonful, then encrease your fire, and stir incessantly your matter, with a stick, till it be in Fusion; take off your pot, and pour into a Mortar the melted Liquor, retaining the *Faces* from going in with it; your matter being cold, is called, *Liver of Antimony*; and being powdered, is called, *The Saffron of Metals*, or *Crocus Metallorum*.

Of it, is made the *Vinum Emeticum*. The Dose is, one ounce in a pint of VVine, of which take
one

one or two ounces inwardly, and four or five ounces in a Clyster.

The Spirit and Oyl of Guaiacum.

FILL up to the neck, a great earthen Retort well luted, with shavings, or little pieces of the VWood of *Guaiacum*; place it in a small Reverberatory Furnace, fitting to it a stone Receiver, or a glafs one, and covering your Furnace with an earthen Pan, that has a hole in the bottom; then by a moderate heat of twelve, sixteen, or twenty hours; you will have the Spirit and Oyl together, which separate either by a glafs Tunnel, or by a coffin of brown Paper, wet with ordinary VWater. Of the Ashes or Coals re-calcin'd, you may make a *Lixivium*, and extract the Salt.

This Oyl is good for old Ulcers, for the Gangrene, and Rot; and two or three drops in Cinnamon-water is good for the Colick, the Spirit is good for Burnings, Ulcers, and for the Pox, in a Decoction of *Guaiacum*.

Crystal Mineral.

THROW fine Niter powdered into a Pot, set in a Furnace of a Circular Fire, and Suppression, and let it be quite full at first; being melted, throw into it four or five times, at each time

time a spoonful of powder'd Brimstone; then pour out by little and little, your melted Niter, into a Brass Kettle, shaking the Kettle, and dipping it into cold Water: dissolve your Niter, thus prepar'd in warm Water; filter it through a brown Paper, and evaporate it to a *Pellicule*; then setting it cool, you will have fair Crystals, which are the true Crystal Mineral, or *Sal Prunellæ*. It cools, opens, and resists Corruption taken inwardly, from a scruple to a dragm, and in a Clyster, from a dragm to half an ounce.

The Spirit and Oyl of Box

ARe made as the Spirit and Oyl of *Guaiacum*, only this Wood yields much Spirit, but little Oyl: the Oyl is good for the putrefaction, and pain of the Teeth, for Contusions and Ulcers.

Of the Regulus of Mars.

POwder and mingle two pounds of Male Antimony, with one pound of Tartar, and one of common Niter, six ounces of filings of Steel, and two ounces of powder'd Charcoal. It is made as the *Regulus* of Antimony, and there results of it a *Regulus* containing seven ounces of Antimony, with the six ounces of filings. It purges by stool, and vomit, in powder, or in vessel with Wine, and serves to make an excellent Diaphoretick, which never provokes vomit. *The*

The Spirit of Salt.

TAke one part of common Salt, and five of Potters Earth, dried and powdered, fill with it a glass Retort well luted, place it in a Furnace of a great Reverberatory Fire; give the fire by degrees, and continue the last degree for twenty hours.

Its vertue is Diuretick, it drives away Gravel, and breaks little brittle Stones, whitens the Teeth, and preserves from the Plague, and all Corruption.

Of the Red Precipitate of Mercury.

Put four ounces of Mercury, and six ounces of *Aqua fortis* in a Matraſs of glaſs luted up to half its Body; place it in a Furnace of a moderate Circular Fire, till the *Aqua fortis* be evaporated; then give a Fire of Suppreſſion, till there riſe a yellow vapour upon the brim of the Matraſs; then take it off, and when cold, break your Veſſel, and you will find in the bottom a Red Precipitate, of an Orange colour.

S

of.

Of Spirit of Niter.

Put one part of fine Niter, to four parts of dried Potters-Earth, fill a glafs Retort well luted, then distil it in a great Reverberatory Fire, and have a care of its vapours in distilling it.

Its Use and Vertues : Are to dissolve Mercury, Camphire, and Metals, and is better for interior Remedies than *Aqua fortis*.

Of Turbith Mineral.

Put two ounces of Mercury, and three ounces of Spirit of Niter, into a glafs Retort, luted up to half its neck, place it in a Furnace of a Circular fire, giving a gentle fire, till the Mercury be dissolved and dried; then take off your vessel, and let it cool, then pour upon it one ounce of Oyl, or Spirit of Sulphur, and evaporate it by the same fire, reiterating this three or four times, then burn upon it Spirit of Wine; break your Vessel, and you will have a white lump: which powder, and wash in warm Water, till the Water come away insipid. Dry this matter in a Sand-fire, and burn upon it Spirit of Wine, three or four times, it will make your Mercury as yellow as Gold; then give it a melting fire, which it will endure very well, without losing any thing, because

cause of the fixedness it has acquired by the Spirit of Sulphur.

Of the white Precipitate.

Put eight ounces of Mercury, and one pound of *Aqua fortis*, into an ample glass Retort with a long neck, shake your vessel, and heat it a little upon warm Ashes, till your Mercury be dissolved; then pour your Dissolution into a glass Bell, and pour upon it a quart of Sea-water, to precipitate your Mercury; separate your Sea-water, and sweeten your Precipitate with common Water, then dry it in a coffin of white Paper. It is used with *Pomatum*, to rub Ring-worms withall.

Its internal Use is, To purge in the Pox, from three to eight grains.

Of the golden Diaphoretick Sulphur.

Boyle in common Water in a Kettle the *Feces* of Regule of Antimony, or Regule of Mars; filter their *Lixivium* through a brown Paper, pour two or three Spoonfuls of Vinegar, or of some acid Spirit upon all this *Lixivium*, it will curdle, grow yellow, and stink, then pouring Water upon it, precipitate your Tincture thus curdled, into a powder of the colour of Saffron, which you must edulcorate, or sweeten, to take away the ill smell, then dry it in a coffin of Paper.

Its Use, is to provoke the Monthly Courses, from eight to twelve grains, by whetting its vertue with twice or thrice as much of Sena, Saffron, and Savin, or by receiving the vapour of the *Lixivium*, in sitting over a Close-stool.

Of the Oyl of Eggs.

Put twenty or thirty Eggs into a Kettle of cold Water, boyl it till your Eggs be hard, take out the hard Yolks, and put them into a Frying-pan, over a flaming fire, bruise them, and turn them often with an iron Ladle, till they be almost all turn'd into Oyl, which separate from its *Feces* while it is warm; you may rectifie it if you please in a glass Retort, in a Circular Fire, or rather in a Sand-fire, which will make it yellow, and incapable of congealing.

Its Use is, That it is a very good Balsam for green Wounds, Burnings, Ruptures, or falling of the Guts into the *Scrotum*, and for Wounds in the Nerves, Ligaments, and Membranes which are uncovered.

Of the Oyl and Spirit of Ash-wood.

They are drawn as the Spirit and Oyl of Box, and this wood yields but very little Oyl.

Its Vertue is, For pains in the Kidneys, Spleen Teeth, and for the rotting of Bones, applied outwardly.

Of

Of distilled Vinegar.

TAke a glass, stone, or glaz'd earthen Cucurbite, fill it half full with good Vinegar, place it in a Sand-heat, fitting to it its Head and Receiver; give at first a great fire, stop the Registers and Doors of your Ash-hole, and Fire-room, continuing your fire, till you have drawn off, within half a pint, all the Vinegar you put in; you may rectifie it upon its *Feces*, and separate the Flegm, which will come first, from the acid Spirit, which will come last, half in half, or thereabouts.

Its Use is, To dissolve Pearls, Corals, Fish-shells, to make of them Magisteries, and to extract the Salt of Metals.

Oyl of Camphire.

Put into a Matrafs or Vial two ounces of Camphire, and four ounces of Spirit of Niter, shake them together, and let them stand till the Camphire be dissolved: separate by a glass Tunnel the Oyl which will swim upon the Spirit.

Its Use is, To moderate the pains of the Nerves that are naked and uncovered in a Wound, and to exfoliate rotten Bones.

Of Spirit of Wine campherized.

Put as much Camphire as you please, into a Matrafs, and pour to it as much Spirit of Wine as shall be three or four fingers above it, fit to it another Matrafs, and make a double Vessel : place it in a Sand-heat, till your Camphire be dissolved.

The Use is, For the Tooth-ach, and for Deafness, applied to the Tooth in a little Cotton, and put into the hollow of the Ear, with a little Wool cut off from the Stones of a black Ram.

Of the Aromatick Tincture of Cloves.

Put into a Matrafs, as many Cloves as you please, and pour upon them Spirit of Wine, to the height of three or four fingers above the matter; place it in a Sand-heat, till the Spirit be died of a blackish red : separate your Tincture, and make of it either an Extract, or a Syrup.

The Use of the Tincture, Is to fortifie the Stomach, and Heart ; ease the pains of the Colick, kill VVorms taken inwardly, and applied outwardly, in form of an *Epithema*.

The calcination of Lead.

Take Lead beaten into thin plates, and Brimstone powder d, of each equal parts; make
Stratum

Stratum superstratum in a glaz'd earthen Pot; place it in a Circular Fire, and of Suppression, till your inflamed and burning Sulphur be consumed; take it off from the fire, and stir it with an Iron Rod, then powder it, and searce it.

Its Use is, To dry up old Ulcers, and Scabs, being incorporated with Grease, or Diapompholix, and also from it, is drawn the Sugar of Saturn:

The stinking Oyl of Cloves.

Put of Cloves what quantity you will, into a glass Retort luted, place it in a Circular Fire, there will come into the glass Receiver white fumes, which will congeal into a black Oyl, stinking and caustick.

It serves to exfoliate rotten Bones, it cures the Gangrene and pocky Ulcers.

Of the Oyl and Butter of Antimony, of which is made the Mercury of Life, or Emetick Powder, or of Algarot.

Of the Cinnaber of Antimony.

Of Mercury and Antimony revived.

Put Corrosive Sublimate, and Mineral Antimony in Powder, of each four ounces, into a glass Retort luted, leaving a gap to look in at;

place it in a small Circular Fire, till all the Oyl be distilled into a glass Receiver, and that you see in the bottom of your Retort, a bright melted lump; then give a fire of Suppression, till your Retort begin to grow soft, and be half melted: break it, there will come out of the neck, Mercury half quick and revived, and half in a blackish powder. In the entry of the neck, you will find a greyish Crust, and in the bottom a lump of Antimony reviv'd, and made crude again; Then put your Oyl of Antimony, which being congealed, is called Butter of Antimony, into a little Retort, to be rectified once only in a small Circular Fire; throw it into some Water, which being impregnated with the Mercurial Salts, is called the Philosophical Vinegar; pour off this acid Water, and sweeten your white powder with other water, till it come away insipid. This powder is called Mercury of Life.

The use of the Emetick powder, is, To cause vomiting, and to purge gently in intermittent Feavers, and Droplies; the Philosophick Water is good for the Itch, Scabs, Ring-worms, and Lice; the Cinnaber of Antimony is a Sudorifick for the Pox.

Of the Oyl and Tincture of Karabe.

Fill a glass Retort, luted up to the neck, with *Karabe* powdered, pour upon it Spirit of Wine, up to the neck too; place it in a Circular Fire,

Fire, and fit to it a large glass Receiver; give your fire by degrees, till you come to a fire of Suppression, and that there appears no more vapours in the Receiver: separate the Oyl that goes to the bottom, from the Spirit that swims on the top.

The Use of the Tincture of *Karabe*, is, For the Palsie, the Sciatica, the cold Gout, all cold Fluxions, and bruises of the Nerves. The Oyl is good against the suffocations of the Mother, and old Wounds.

Of the Oyl of Jet.

Fill a Retort of glass, well luted, with Jet in pieces, up to the neck; place it in a Circular Fire, and fit to it a glass Receiver, giving the fire by degrees, as in the Oyl of *Karabe*, and separate the Oyl from the Spirit, that will swim on the top.

The Use of the Oyl, is, for the Suffocation, or Fits of the Mother, for all Contusions and Bruises.

Of the Butter, Cream, or Nutritum of Saturn.

Put into an earthen glaz'd Pan, *Minium*, or *Lytharge*, or *Ceruse*, or calcin'd Lead, as much as you please; pour upon it boyled distill'd Vinegar five or six fingers above the matter; stir it with a wooden *Spatula*; an hour after melt another

ounce of white Wax in an earthen glaz'd Pan, and add to it four ounces of Oyl; pour this mixture into a Mortar, and upon it a glass full of the said Vinegar of Saturn, stir it, till it be in a consistence of Butter, or *Balsamum*.

The Use of this Balsam, is, To cool, and assuage pain, and extinguish Inflammations; to dissipate and ease the Hemorrhoids.

The Use of the Vinegar of *Saturn*, being dissolved in a small quantity in Water, is, To appease Inflammations, and to serve for Injection in Gonorrhæa's, being mingled with a little Water of Barley.

Of the Oyl of Bricks, or the Philosophers Oyl.

Put five parts of powdered Bricks, and one part of Oyl of Olives, into a glass Retort luted, and bigger than needs for so much matter; place it in a Circular Fire, which by little and little, you must bring to the highest degree, or Fire of Suppression; the Flegm will come first, then a stinking, thick, red Oyl, which being rectified, will become yellow, clearer, and less stinking.

The Use of this Oyl, is, For Contusions, the Sciatica, and cold Defluxions.

The Oyl of yellow Wax.

POur one part of yellow Wax melted, upon five parts of powder'd Bricks, make with it little Balls, and with them fill a glass Retort, luted up to the neck; give the same Fire, as in the Oyl of Bricks; the Flegm will come first, then a red stinking Oyl, which will congeal into a yellow Butter, which being rectified, will become clear, and white, and less stinking. The Use of it, is the same as of the Oyl of Bricks.

Of the Extract of Hellebore.

Put half a pound of the Roots of black Hellebore, and upon it as much Spirit of Wine as will cover it three fingers high, into a double Matraass; draw the Tincture in a Sand-fire, for three or four days, evaporate the said Tincture in a glass Cucurbite, in a Sand-fire, to a consistence of Honey.

The Use is, To purge Melancholy, it causes Loathing and Vomiting. The Dose is, from ten grains to a scruple.

Of Aqua fortis.

Put into a glass Retort common Niter & undegmated Vitriol in powder, and leaving third part of your Vessel empty; distil them in a Fire of Reverberation, or Suppression, giving it by

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by degrees. A little Flegm will come first, then the Spirit in red vapours.

The Use is, To dissolve Minerals and Metals, and to give force, and penetration to Dyings, or Tinctures.

Of the Infernal Stone.

Put two parts of *Aqua fortis*, to one part of Coppel Silver, cut into little pieces, in a small Matraass half luted; evaporate the *Aqua fortis* in a Circular Fire, till your matter be dry, with a black scum upon it; then give a melting fire, till there rise no more vapours: then take off your Matraass, and let your matter cool, or else pour it into little moulds.

The Use is, To consume Warts and proud Flesh, to cure Cancries, the Ulcers of the Mouth, and the Gangrene, by touching them with this Stone.

Of the burning Spirit of Honey.

Put one pound of Honey, and a pint of White Wine into a glass Cucurbite, or an earthen one; distil them in a Sand-fire, till you hear that it boyls no longer, and that there remains nothing but a black Honey in the bottom.

The Use is, To dye the Beard and Hair.

Of the Arcanum Corallinum.

POur warm Water upon the Red Precipitate of Mercury, till at last your Water come away insipid, then pour upon it Spirit of Salt, in a glass Cucurbite; dry it in a Sand-fire, that will fix the Mercury; then sweeten with cold Water the said Mercury fixed, till the Water come away insipid; then reverberate it in a Crucible, it will become as red as Coral; then burn upon it Spirit of VVine, two or three times.

The Use of it is, To purge, and provoke vomiting gently, and cure the Pox. The Dose is, from three to six grains.

Cinnamon-Water.

Put four ounces of Cinnamon, and a quart of White Wine, into a glass, or stone Cucurbite, fit to it a Head and Receiver of Glass, distil them in a Sand-fire; there will come at first a clear Water, and toward the end, a whitish muddy one.

The Use of the first Water, is, To fortifie the Stomach, and comfort the Heart, and to facilitate, and further the delivery of Women in Child-bed. The second Water may serve in the confecti-
on of the Syrup of Cinnamon, by infusing the Cinnamon before you dissolve your Sugar in it.

Of the sweet Sublimate.

TAke of Corrosive Sublimate, and Quick-silver, of each a like quantity, powder your Sublimate in a white Dish, with a Pestle of VVhite-ware, stopping your nose close; then add to it the Quicksilver, and when they are half incorporated together, add a little distilled Vinegar, to make a wet powder; put this mixtion into an unluted Matraass, with a straight neck, place it in a Circulary Fire; after the evaporation of the Vinegar, stop the Matraass with a Paper stopple; continue your fire, till your matter be elevated from the bottom of the Matraass, take off your Matraass, break it, and take out the Sublimate, which cleanse every where: powder it, and put it into a greater Matraass, half luted, to be sublim'd a second time in the same fire, which you must encrease towards the end of the Operation, till there remain little or nothing in the bottom of the Matraass. Take off your Matraass, and break it, and keep this Sublimate in a glass Vessel well stop'd.

Its Use is, To purge gently, from twenty to forty grains, it fluxes in four or five Doses, one after another.

Of the Salt of Saturn.

Put as much distilled Vinegar as you please, into a glaz'd Pan, which set upon a Trevet over a
fire

fire of Wood and Coals, and add to it as much as you please of powder'd Lytharge, stirring it with a wooden *Spatula*; then, after it has boyled a little, let it cool, pour off the distilled Vinegar impregnated, and pour on more; reiterate the boyling, till there remain no Lytharge; filter your Dissolutions, and evaporate them in a Sand-fire, in a glass Cucurbite, till your matter become as red as Blood: then put it into VVhite-VVare Dishes to congeal into white Crystals, as sweet as Sugar, and there will remain a red Oyl, sweet also, which has the same vertue as the Salt.

It is a *Collyrium* for the Eyes in Ophthalmies; it is good to inject in Gonorrhæa's, and it is excellent for redness of the Face, or Erysipelases, in VVater, or *Unguentum Rosatum*.

Of the Diaphoretick Antimony.

TAKE one pound of Mineral Antimony, or the Regule of Antimony, or *Mars*, four pound of fine Niter, powder them, and mingle them together, and put them in sagration and fusion by spoonfuls, in a great Pot of the Crucible Earth, heated red-hot in a fire of Suppression, covering at each time the Pot; continue the fire till the vapours cease; then take it off, and with a Lat-tin Ladle, pour out the matter gently into an earthen pan full of VVater: bruise between your hands the matter thus quenched. Pour off the white milky Dissolution, within 2 or 3 hours, pour off the VVater of that which is precipitated

to the bottom, and sweeten it, till your water come away insipid; then filter your Magistery, and dry it in the shade.

The Use of it is, That it is a powerful Diuretick, and Diaphoretick against Venereal Diseases, the Small Pox, and all long Distempers. The Dose is, from ten to twenty grains, and more. Boyl four ounces of *Venice Turpentine* into the consistence of *Colophone*, in a kettle full of Water, and mingle with it, while it is warm, an ounce of Diaphoretick Antimony, half an ounce of Niter sulphurated, and as much Cream of Tartar; form of it Pills, which will be excellent for old Gonorrhæa's.

Of the binding Saffron of Mars.

Put two parts of filings of Steel, and one part of powder'd Brimstone, all at once, into a Crucible heated red-hot in a fire of Suppression, till the Brimstone be consumed, and an hour after, take off your Crucible, and powder presently your matter; spread this powder, that is now of the colour of Violets, upon Tiles, and it will become brown.

It is good in bloody and Hepatick Fluxes, in the weight of a dragm: It augments the binding vertue of Plasters.

The opening Saffron of Mars.

SPrinkle the binding Saffron of *Mars* in a stone pan, with Spirit of Vitriol, or Brimstone, two fingers above the matter, which in two or three days will be a kind of paste, with which, fill a large Crucible, and set it in a Reverberatory Fire for eight hours, then powder it, while warm, and searce it.

The Use : This Saffron is good against the Yellow Jaundice, it provokes the Monthly Courses, and opens the Spleen, from half a dragm to two.

Of the Spirit of Sulphur.

PLace a stone Cup half full of Sand, upon a little Pot, placed in the middle of a great earthen Pan, a quarter full of Water; put into it a spoonful of powder'd Brimstone, and with a red Cart-nail set it on fire, put presently a glass Bell over the Pan, the Brimstone will burn, the Spirit will impregnate the Water, and the Flowers will produce a little skin; reitërate all that, till you have thus consumed four pound of Brimstone; then mingle your Flowers, and your impregnated Water in a Matraass with a short neck, and evaporate in a Circulary Fire the Flegm, till your Brimstone be dissolved, and that your Spirit grows black; pour it all into a stone, or White-

T

ware

ware Vessel, while it is warm; the Brimstone will be congealed in the bottom, and you shall have half an ounce of black Oyl, or Spirit of Brimstone.

It cools, purifies the Blood, preserves from the Plague, fixes Mercury, dissolves Pearls and Coral, and cures Cancries; and Warts.

Of the Spirit of Vitriol, and Oyl of Colcothar.

Fill a glass Retort, thoroughly luted, with green Vitriol calcin'd to a grey colour, in a great Crucible in a Circular Fire, and of Suppression; place it in a Furnace of great Reverberation, till there appear black spots upon the Receiver; then pour off your Spirit of Vitriol, which is as clear as Water, encrease your fire, you shall have a black Oyl very acid, and there will remain a *Colcothar* in the Retort.

The Use of both is, To cool and resist Corruption, against all Distempers of the Liver, Kidneys, against burning and pestilential Fevers; it serves also, to dissolve Pearls, Coral, Crabs Eyes, Egg-shells, &c. but it is not strong enough to dissolve Metals.

Of

Of the Oyl of Myrrha.

Fill with Myrrha in pieces, a glass Retort luted; place it in a Circular Fire, fitting to it a great Receiver; there will come out a Flegm, and an Oyl, both together; separate them one from another, with a glass Tunnel.

The Use of the Oyl is, Against Fits of the Mother by smelling to it; it cleanses and ripens Wounds, being mingled with the *Digestivum*; and hinders the Gangrene, being mingled with the *Egyptiacum*.

Of Cauteries.

Slack half a pound of Quick-lime in a stone Pan, by pouring Water upon it, by little and little, till it become like pap; in the mean time, heat in a Crucible, in a Fire of Suppression, two pounds of gravell'd Ashes, and throw them hot into the said pap, then pour upon it sufficient quantity of Water to dissolve your Salts; after twelve hours infusing, pour your *Lixivium* into a brass Balin, and evaporate it till it be dry: and thus, as it is, you may use it as people do other Cauteries. If you melt this matter, you may mould Cauteries upon a Marble.

The Use is, To cauterize; when they are
T 2
moulded,

moulded, they are dryer, and must be well wet before their application.

Of the Red acid oyl of Antimony.

POWDER and mingle fine Niter, Brimstone, and Antimony, of each a pound; set fire to your matters by little and little, in an earthen pan, under a glass Bell, as you do the Spirit of Brimstone; then evaporate it in a Matrafs of a short neck, till your Brimstone be melted, and your Niter exhaled, and that your Oyl appears red and thick, taking care that your matter in boyling do not run over; pour all your matter into a little stone pot, or of White-ware, and when it is cold, it will congeal into a fair reddish Sulphur.

The Use of the Oyl is, To cure by touching the Ulcers and Cancres of the Pox; it purges without provoking vomit, from eight to eighteen drops.

Of Besoard Mineral.

MELT some butter of Antimony, and pour it into a glass Bell, and add to it, drop by drop, and at divers times, Spirit of Niter in equal quantity, for fear of too great an ebullition; when the smoak and boyling cease, pour to it a pint of Sea-water filtred and cold, there will be

be produced a white Precipitate; after twelve hours, pour off this Water, sweeten your Precipitate with common Water, then filter the remainder through a coffin of Paper, and keep your powder well stop'd.

Its Use is, To be an excellent Sudorifick for malignant Feavers, and the Pox.

The Precipitate of Bismuth.

Put four ounces of powder'd Bismuth into a glass Bell, and pour upon it, by little and little, eight ounces of Spirit of Niter, having a care of too great an ebullition, and of the venomous vapours of the said Spirit. The ebullition being ceas'd, and the dissolution perform'd, and cold, it will crystallize. Pour upon it Sea-water, to precipitate the Magistery, pour off your Sea-water, and pour on common Water to sweeten it, filter the remainder through a Paper coffin, and let it dry in the shade.

The Use is, To dry Uleers, and to be a *Fucus* being mingled with *Pomatum*.

The spirit and oyl of Turpentine.

Fill a glass Retort luted with the waterish Spirit of Turpentine, with its Oyl, distil it in a Circular Fire, till three parts of four come away,

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which

which will be the Spirit, and there will remain in the Retort a thick red Oyl ; rectifie your Spirit so often, till there remain no Oyl in it.

The Oyl is a good *Anodynum* for wounds of the nervous parts ; the Spirit is a good Diuretick, dissolves Gums, extracts Tinctures of Aromatick Plants, and serves to make the Balsam of Sulphur.

Of the sulphurated Niter, call'd Sal Antifebrile, or the salt against Feavers.

TAKE four ounces of Brimstone, or its Flowers, and mingle them with eight ounces of fine Niter ; fire this mixtion by degrees in an earthen Cup, set in a stone Pan, in which is a quart of Spirit of Urine, covering the pot with a Bell ; then take the *Faces* of the calcin'd Brimstone, and powder them, and mingle them with the Spirit of Urine impregnated with the Spirits of Niter and Sulphur ; let them infuse twelve hours in this stone Pot, till they be dissolved, filter the Dissolution, and evaporate it in a short necked Matraass in a Circulary Fire, till it come to a white scum ; then diminish the Fire, and evaporate it, till it cease boyling, and have a care that the too much boyling do not break your Vessel ; pour this matter, while warm, into a White-ware Dish, and it will congeal like Crystal

stal Mineral. To mould it, you must melt it, and then pour it into a Vial, or melt in the Vial, and then break your Vial by cold Water, and take away all the Glass with the point of a Knife.

The Use: 'Tis a powerful Diuretick and cooler, it resists Corruption, it drives Gravel, cures Feavers, softens Metals. The Dose is, from twenty to thirty Grains.

FINIS.
